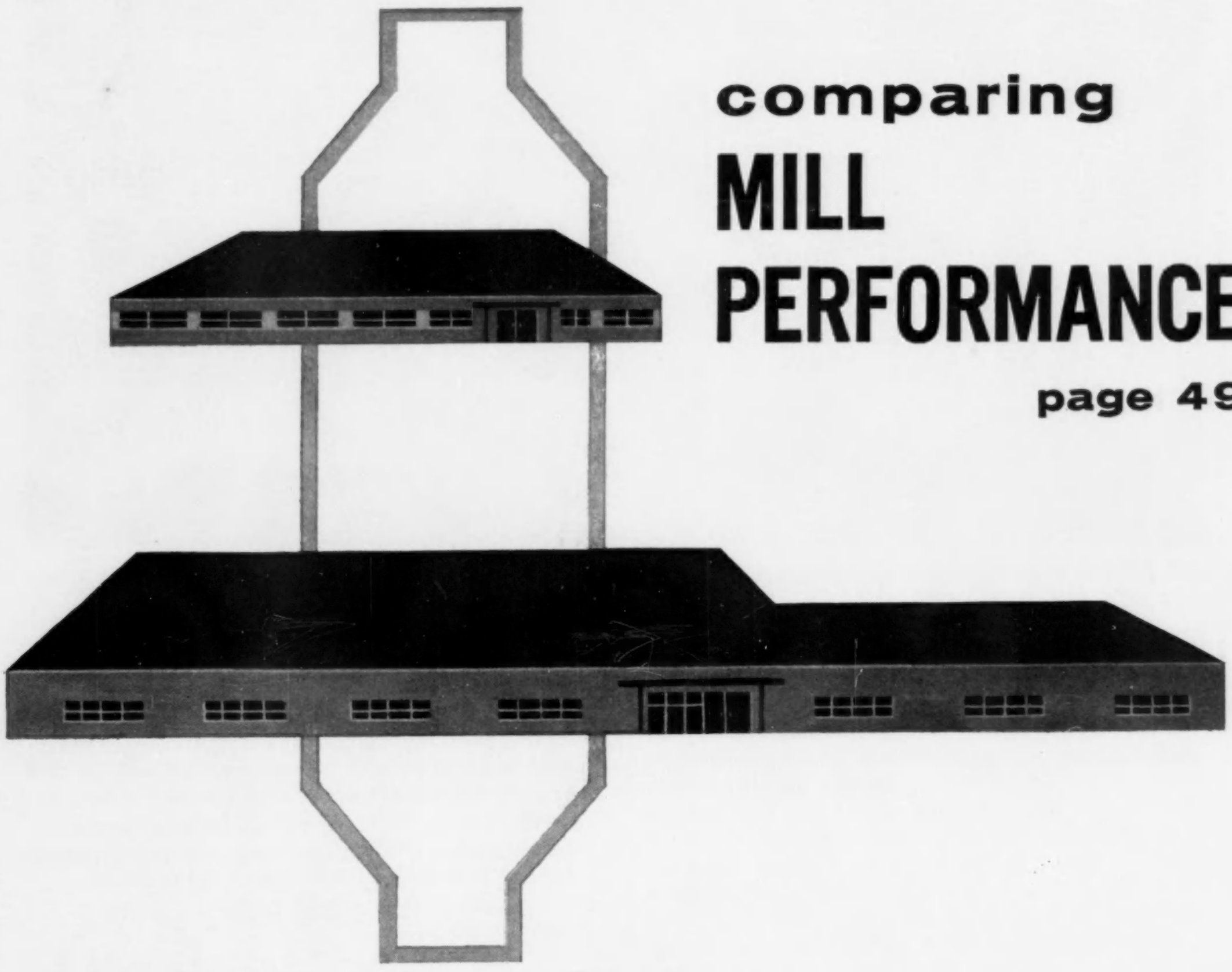
Textile World

JULY, 1958

A McGRAW-HILL PUBLICATION

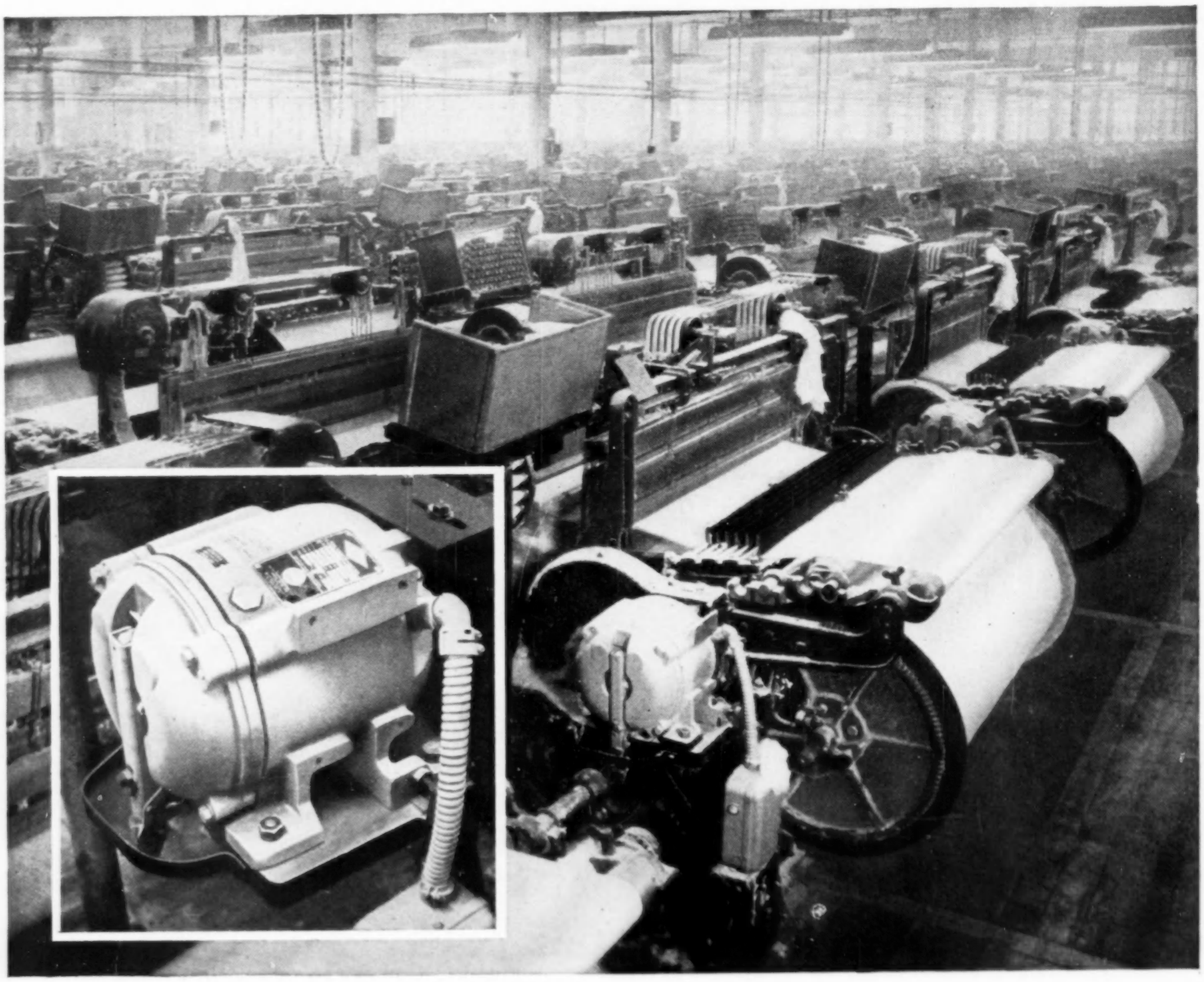
The only KNOW-HOW . . . KNOW-WHY Publication in Textiles



comparing MILL PERFORMANCE

page 49

What's happening in
- TEXTILE BUSINESS page 3
- TEXTILE CHEMICALS page 67
- FIBERS, YARNS, FABRICS page 103



AT CONE MILLS

DIEHL transmitters improve product quality

Three hundred Draper looms powered by the latest type DIEHL Power Transmitters were recently installed as part of an important new modernization program at Cone Mills Corporation's Minneola Plant, Gibsonville, N. C., with most satisfactory results in the improvement of loom performance and product quality.

DIEHL Power Transmitters were developed especially for Draper looms, and feature a fast, positive clutch-brake mechanism combined with an inverted type motor which provides high inertia without need for a separate flywheel. This design produces a constant steady pull for more efficient weaving and better quality greige goods, in the opinion of a plant official. "Increased efficiency of looms will be joined by lower operating costs because of the combination of Draper X2 looms and DIEHL Transmitters," he said. The looms now run at 186 picks per minute.

Cone Mills plant officials are favorably impressed with the positive action of the clutch-brake mechanism, the pinion driving shaft construction which eliminates the thrust bearing on the loom, the speed and ease of removal and replacement of the transmitter for inspection and servicing, the totally enclosed housing design which protects against weave room lint and fly, and the negligible maintenance and down-time costs.

DIEHL Power Transmitters can increase production and efficiency—at lower operating costs and less down-time—in your mill. Specify them for your looms.

DIEHL MANUFACTURING COMPANY
Electrical Division of
THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Diehl

☐ Please send me Consolidated Motor Catalog and Price List No. TW-7, 3540

☐ Please send me Textile Motor Bulletin No. TW-7, 3526

NAME _____

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

Baltimore • Chamblee, Ga. • Charlotte • Chicago • Cincinnati • Los Angeles • Milwaukee • Needham, Mass. • New York • Philadelphia • Syracuse

This Month in **TEXTILE WORLD**

July, 1958
Volume 108, No. 7

BUSINESS

Textile-Business Upturn Seems Firmly Under Way. Signs that business is shaking off the doldrums significantly increased last month, for both the textile industry and the general economy 3

Textile Stocks Outperform the Market Averages. The textile-group average has risen 16.5% above the 1958 low, compared to a 7% rise by the Dow-Jones Industrials average 4

Senate Probe of Industry Scheduled To Start July 8. Deep-seated ills of the industry will be explored and analyzed by a special Subcommittee of the Senate Committee on Interstate and Foreign Commerce 4

Textile Markets—a World Scramble. Faced with the same problems—depressed markets, too much capacity, and pressure of imports—nearly all leading textile countries are taking steps to protect their own industries 5

1959 Auto Upholstery Moves Toward Conservatism. Upholstery on 1959 models will show little change from the 1958 models. Fewer colors will be used 6

Restrictions on Cotton Are Hampering Its Use. Cotton consumption will fall about half a million bales throughout the world next year, the International Cotton Advisory Committee forecasts. Chief reason for the drop is the high price of U. S. cotton 7

New "Super-Super" Rayon Will Reduce Tire-Cord Market. Use of the new 1,100-den. two-ply "super-strength" rayon on 1959 models will reduce poundage of tire cord use by 12½% 8

U. S. Textile Machines Dominate Poland Trade Fair. Complete cotton-spinning operation, from bale to clothing, shown at International Trade Fair at Poznan 9

Textile World's Index and Monthly Indicators . . . show an upturn in both the textile industry and the general economy 10

MANAGEMENT

The Textile Revolution (Editorial) 47

How To Measure and Compare Mill Performance. Here is a technique Shuford Mills worked out for measuring such factors as raw-material cost, labor cost, waste, quality, and personnel effectiveness in each of its 11 mills and for comparing one mill with another 49

Humanics—Lose Your Temper and Have an Accident 55

What You Do Versus What You Say. If your employees sometimes misunderstand you, maybe its's because your actions are conflicting with your words 87

PRODUCTION

. . . CARDING

Georgia Carders Analyze SRRL Openers in Use. TOE meeting also discusses picker beaters, card screens, large sliver cans, and flyer presser fingers 54

. . . CARDING & SPINNING

Research Specialist Tells STA How To Process 1957 Cotton . . . and how to lower cotton cost by using lower grades of cotton, off-color cotton, and shorter staple lengths 61

. . . SPINNING

Spinning Tapes and Spindles Highlight Georgia TOE Forum. Other subjects include creeling roving from carts, new long-draft systems, synthetic versus leather aprons, and warper efficiency 58

. . . WEAVING

Alabama Mill Men Review Multicylinder Slashers. TOE reports show that slasher production at several mills has been doubled in one year's time 60

How E-Model Loom Brakes Can Be Made More Effective 62

. . . KNITTING

Alba's New Seamless-Hosiery Addition Has Modern Handling Methods. Aluminum racks are used to hold stockings on the looping machines, and aluminum trucks are used to transport yarn and stockings 56

Please turn the page

This Month in **TEXTILE WORLD** continued

CHEMICAL TREATMENT

Textile Chemicals 67
New Dyes & Chemicals 69
Why You're Losing Business to Foreign-Made Fabrics. Like it or not, one reason U. S. mills are losing business to foreign mills is poor finishing and loose colors on American-made goods. Here are some common faults of American goods that consumers think need correction—and quickly 71
How Lebanon Finishes Worsted Outerwear 74
How Nappers Work and How To Work Them 78

DEPARTMENTS

Calendar 14
Editorial 47
Equipment and Supply News 105
Fibers, Yarns, Fabrics 103
Kinks and Short-Cuts 89
Mill Maintenance 132
New Dyes and Chemicals 69
New Literature 114
News About Men 148
News About Mills 13
News About Suppliers 142
Obituary 150
Pointers for Supervisors 87
Questions and Answers 99
Reader Service 161
Round Table 16
Textile Chemicals 67
Textile Business 3
Advertisers' Index 160

MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS AND AUDIT BUREAU OF CIRCULATIONS

A McGRAW-HILL PUBLICATION

TEXTILE WORLD

PRENTICE M. THOMAS ..... **Publisher and Editor**

GREENVILLE STAFF

Richard B. Pressley ..... *Senior Associate Editor*
James H. Blore ..... *Associate Editor*
William G. Ashmore ..... *Associate Editor*
Robert W. Pinault ..... *Assistant Editor*

NEW YORK STAFF

Louise E. Wilie ..... *Managing Editor*
William A. B. Davidson ..... *Associate Editor*
Robert E. Walk ..... *Art Editor*
Gloria J. Meeks ..... *Production Editor*
Carol J. Wilhelm ..... *Copy Editor*

E. H. Helliwell. *Contributing Editor (New England)*
H. S. Knowlton ..... *Contributing Editor (Boston)*

John Wilhelm ..... *World News Editor*
George B. Bryant, Jr. ... *Chief, Washington Bureau*
Dexter Keezer ..... *Economics Director*

CONSULTING EDITORS

C. Norris Rabold ..... *Chemical Treatment*
William A. Newell ..... *Textile Research*

BUSINESS DEPARTMENT

Walter C. McMickle ... *Advertising Sales Manager*
Thomas Macaluso ..... *Business Manager*
Howard J. Bernard ..... *Research and Promotion*
John J. Nevins ..... *Production Manager*

DISTRICT OFFICES:

BOSTON 16, Ralph L. Chisholm, Dist. Mgr., 350 Park Square Building.
CHICAGO 11, Richard N. McKelvey, Dist. Mgr., 520 North Michigan Ave.
NEW YORK 36, Stokes T. Henry, Dist. Mgr., 500 Fifth Ave.
PHILADELPHIA 3, H. C. Harvey, Dist. Mgr., Six Penn Center Plaza.
CLEVELAND 13, Richard H. Burke, Dist. Mgr., 55 Public Square
ATLANTA 3, William O. Crank, Dist. Mgr., Rhodes-Haverty Building.
WASHINGTON 3, National Press Building.
OTHER OFFICES: Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; Pittsburgh 22; San Francisco 4; London E.C. 4; Paris 7; Bonn; Rio de Janeiro; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E 4; Toronto 4; Frankfurt/Main.

© Copyright 1958 by McGraw-Hill Publishing Co., Inc. (All rights reserved)

TEXTILE WORLD Published monthly, with an additional issue in July, by McGraw-Hill Publishing Co., Inc., **EXECUTIVE, SUBSCRIPTION, AND ADVERTISING OFFICES:** 330 West 42nd Street, New York 36, N. Y. **EDITORIAL OFFICES:** 201 East Coffee Street, Greenville, S. C., and 330 West 42nd Street, New York 36, N. Y. Publication Office: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or changes of address.

Donald C. McGraw, President; Henry G. Lord, Founder and Director; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator.

SUBSCRIPTIONS are solicited only from executives, engineers, chemists, and technicians in textile manufacturing and finishing plants. Position and company connection must be indicated on subscription order. Single copies $1.00. Subscription rates: United States and Possessions and Canada, $2.00 a year; all other countries, $15.00 a year. Second-class mail privileges authorized at Albany, N. Y. Printed in U.S.A. Annual index in January issue.

SUBSCRIPTIONS: Address correspondence and change of address to Fulfillment Manager, TEXTILE WORLD, 330 West 42nd Street, New York 36, N. Y. When address is changed, subscribers should give old as well as new address, including postal zone number. Enclose recent address label if possible. Allow one month for change to become effective.

Postmaster . . . Please send form 3579 to Textile World, 330 W. 42nd St., New York 36, N. Y.

TEXTILE BUSINESS

Textile World

J U L Y • 1 9 5 8

THIS MONTH'S HIGHLIGHTS

Business Upturn Firms

•

Textile Stocks Hit 1958 Highs

•

World Scramble for Markets

•

Senate Probe of Industry Set

•

Trends in 1959 Auto Upholstery

•

Drop in Cotton Use Predicted

•

1959 Tires Will Use Less Cord

•

U. S. Machines at Poland Fair

Textile Business Upturn Seems Firmly Under Way

Signs that textile business is shaking off the doldrums significantly increased last month.

The approach of the Fourth of July vacation period slowed business in some areas where goods could not be delivered before the shutdowns; but in the industry as a whole, cautious optimism was replacing the pessimism of several months standing.

TEXTILE WORLD's Index [p. 10] took a sharp upturn when new figures on textile-mill activity became available. From 96 (1954 = 100) in April, the index rose sharply to an estimated 97 in May and 99 in June.

Here are some of the signs that observers pointed to as significant:

•

• **Department-store sales,** a sensitive indicator of consumer purchases of clothing and household textiles, took an upward turn last month. In the four-weeks period ending in mid-June, average sales for 1958 were only 2% below last year. A month before, sales for the year had been trailing last year by 3%.

• **Chain-store and mail-order sales** in May were 5% above May of last year. For the first five months of 1958, they were 3.7% above the same period last year.

• **Rayon and acetate yarn shipments** to U.S. users rose 5% in May from April. Shipments of rayon and acetate, excluding acetate staple and tow, amounted to 74.2-million lbs., up 3.2-million lbs. from the 71-million lbs. shipped in April, according to the Textile Economics Bureau.

The gain was entirely in domestic shipments. Shipments for export remained level with the 1.1-million lbs. going to export in April.

The biggest domestic gains were made in rayon staple and tow, which rose from 22.8-million lbs. in April to 24.7-million lbs. in May, a gain of 8½%.

Acetate yarn gained at the same rate. It rose from 17.6-million lbs. in April to 19.1-million lbs. in May, also an 8½% gain.

• **TEXTILE WORLD'S mill-margins rate-of-change chart** signaling a major upturn in both textile production and general industrial production [TEXTILE WORLD, June, p. 69] continued its signal for the sixth consecutive month.

•

The textile industry, of course, is now in its slowest period of the year, Fourth of July vacations. As shown on TEXTILE WORLD's Index chart, mill production dips sharply every year in July.

But as the chart also shows, it rises again sharply in August and September.

Whether or not the rise this year carries to a level well above the late level of the 90's (1954 = 100) depends almost entirely on whether or not the general economy snaps out of its recession. A textile recovery never goes far unless it is backed by a general recovery.

On the other hand, textile recoveries frequently, even usually,

Senate Probe of Industry Scheduled To Start July 8

Deep-seated ills of the textile industry will be explored and analyzed by a special Subcommittee of the Senate Committee on Interstate and Foreign Commerce at a three-day hearing July 8 to 10.

Chairman of the Subcommittee is Sen. John O. Pastore (D.-R. I.). Other members are Senators Allen Bible (D.-Nev.), William Purtell (R.-Conn.), Strom Thurmond (D.-S. C.), Frederick G. Payne (R.-Me.), and Norris Cotton (R.-N. H.).

Dr. William H. Miernyck, Professor of Economics and Director of the Bureau of Business and Economic Research, Northeastern University, Boston, has been named staff director for the investigation. Dr. Miernyk will appoint his staff assistant.

Diagnosis of industry ills may result in legislative action by Congress next year.

A limited number of invited witnesses representing both industry and labor will be heard in Washington.

Representatives of the State Dept., Dept. of Commerce, and Dept. of Agriculture will attend as observers. Later hearings in textile areas may follow.

Russia's World-Fair Exhibits Show Lack of Textile Skills

BRUSSELS—The Russian exhibit at the World Fair reveals the Soviet textile men's crude skill in printing fabrics.

The Russians apparently do most of their printing on high-count fabrics, and many of the prints are so bad that it is a surprise that the Soviets would exhibit them to the world.

Bright colors dominate, but many prints are in softer tones. Here are the highlights of the exhibit:

• Wool

Most, although not all, of the fabrics exhibited are wool goods. One of the "most fashionable" fabrics is a cotton-warp, wool-filling fabric in green with brown speckling.

This fabric, weighing 290 grams per square meter, was woven of

lead general-economy recoveries. It now looks as though the pattern is being repeated this time.

●

The U.S. economy is now widely thought to have ended its downward course in April. Several important segments of the economy showed definite improvement in May.

• **Employment** rose better than 1-million in May, and claims for unemployment benefits declined 81,800 in the last week of May and first week of June.

• **Personal income in May** rose $1.2-billion above the yearly rate of $343.1-billion in April. That was the first rise since last August. Part of the rise was in agriculture, but $700-million was in nonagricultural employment.

• **Home-building** soared to a yearly rate of 1,010,000 starts in May, a gain of 60,000 over the April rate of 950,000 starts. May was the first month since January that starts reached the million mark. The 1,010,000 starts in May of this year were 16,000 above the 994,000 starts in May of last year.

• **Steel output** rose steadily throughout May and by mid-June was at about 64% of capacity. Steel consumption was estimated at better than 70% of production capacity, a rate 6% higher than output.

• **General industrial production** turned up in May, for the first gain in 11 months. For the last eight of the 11 months (September through April), the seasonally adjusted index based on 1947-49 = 100 dropped every month. Present estimates are that it is likely to rise another point for June but drop during July vacation shutdowns.

●

The present recession is largely a businessman's recession. Capital expenditures for plant and equipment are, along with consumer spending and government spending, one of the three main supports of prosperity.

In 1958, government spending has increased and consumer spending has held more or less steady. The one big source of income generation and business activity that has faltered has been business and industry clamping down on capital investment (down 17%) and operating expense.

Therefore, whether or not we are moving firmly and certainly out of the 1957-58 recession depends largely on whether or not business and industry have enough confidence to invest in the future.

Textile Stocks Outperform The Market Averages

Textile stocks are outstripping the stock-market averages in the move upward from the 1958 lows.

By the middle of last month, Barron's textile-group average had risen 16.5% above this year's low, compared to a 7% rise by the Dow-Jones Industrials average.

The best performers were some of the carpet mills. Both Bigelow-Sanford and Mohasco rose about 50%.

Several man-made-fiber producers gained 40% and better.

General textile mills and some hosiery mills showed gains of 20% to 33%.

Here's how some of the textile stocks listed on the New York Stock Exchange were doing (fractional points omitted):

	1958 low	Mid-June	% gain
American Enka	14	20	44
American Viscose	25	28	12
Beaunit Mills	10	14	40
Bigelow-Sanford	6	9	50
Burlington Industries	9	12	33
Celanese	12	17	41
Cone	9	12	33
Dan River	9	11	22
Firth Carpet	6	7	16
Lowenstein	11	14	27
Mohasco	4	6	50
Mojud	8	10	25
Reeves Bros.	6	8	33
J. P. Stevens	17	21	23

Textile Markets— A World Scramble

A wave of dissatisfaction with world trade in textiles boiled up all over the world last month. Nearly all leading textile countries face the same problems: depressed markets, too much capacity, and pressure of imports.

Here's what the boiling pot looked like:

●

• United States

Textile men got their answer to the groundrules for world trade, tariffs, and the "escape" clause last month when the House of Representatives voted to extend the Reciprocal Trade Agreement Act for five years.

At first, the bill passed by the House was hailed as an overwhelming victory for liberal world trade. But a second look cooled the enthusiasm of most liberal-trade adherents. Some even spoke of "time bombs" buried in the bill.

For textile men, one of the most encouraging things in the bill was the ruling on the escape clause. Under the old rules, it was necessary to have industrywide backing to apply to the Tariff Commission for relief under the escape-clause provisions. Now a single company can apply.

Also, under the old rules the President could veto a Tariff Commission recommendation in favor of an industry and that was the end of it. Now, Congress can overrule the President by a two-thirds vote of both Houses.

Although textile men might have wished stronger checks on the administration of the reciprocal-trade program, there seems

40/2 cotton and 2/15 and 2/7 wool. with a count of 164x118.

Another fabric said to be popular in Russia is an all-wool, lightweight women's-wear black - with - white-speckling fabric. It is a loosely woven, double-face, merino fabric.

• Carpets

Although the Russians make much of their carpets being "hand woven," the textile industry is no longer a peasant industry but an active factory-system industry run by cooperatives.

Yarns for the carpets are no longer spun at home and dyed with garden-grown plant dyes. Instead, the Russians now use factory machinery, and the "carpet weavers" work in the factories.

Dyeing is better, and production is faster; but the "last a century" carpets formerly hand-made are no longer available.

On exhibit was a modern Bokharas carpet available for export at about $50 per square meter.

• Silks and Man-Made Fibers

Silks on exhibit are good but ordinary. The Russian representative said the silks are too expensive for most Russians.

Man-made-fiber fabrics showed much variety and considerable manufacturing skill.

One of their proudest specialties is fabrics decorated with metallic yarns, which they developed only recently.

Another is a fabric called "Hamlet," with a rough white ground and thin, smooth black stripes. It weighs 200 grams per square meter and is woven with a warp of 113s acetate and 75s viscose and a filling of 75s viscose.

Still another is a line of lastex-type fabrics shown at the exhibit in both piece goods and swimwear. The fabrics have good stretch but lack the sleekness usually associated with such fabrics.

Carpet Prices Cut

James Lees & Sons reduced the price of carpet 3½% last month. The reason given was the lower price of wool. Wilton lines were cut as much as 5%.

Other carpet manufacturers followed Lees a few days later, among them Bigelow-Sanford, Mohasco, C. H. Masland, and Artloom.

This is the second carpet-price reduction this year. The first one was made in January and averaged a little less than 3%. In that price drop, James Lees also led the way.

TEXTILE BUSINESS

1959 Auto Upholstery Moves Toward Conservatism

Upholstery on the 1959 automobile models scheduled to start rolling off the assembly lines later this quarter will show little change from the 1958 models.

Detroit bought a supply of textiles for 1958 models that was not used up in the slumping volume this year. There's a mess of textiles lying around waiting to be used, and the auto-makers will use them up in the new models.

Also, for the 1959 models two of the three big producers have trimmed their color codes in half. This move means less variety of color choices for auto buyers, but it does not necessarily mean less volume for mills making upholstery fabrics.

Auto programming and purchasing is well planned, and big supplies of textiles seldom go to waste. Total fabric volume used is about the same, regardless of color variety.

•

The ratio of coated fabric to uncoated fabric will remain about the same in the new models.

In the Fisher body, for example, the ratio will stay at about 9 yds. of coated fabric to 4 yds. of uncoated, a total of 13 yds. of visible fabric per car.

Leather is not expected to increase its present negligible share of the market.

Metallized fibers will be de-emphasized in a move toward conservatism.

Rayon and mead board will gain in use as headlinings. Mead board in particular will gain in station wagons and hard-top convertibles because of its easy-cleaning, snag-resistant, snug-fit characteristics.

Wool-Fabric Output Below Last Year

Woolen and worsted fabric production in the first quarter of 1958 was 1% higher than in the fourth quarter of 1957 but 17% below the first quarter of last year, according to the Bureau of the Census.

First-quarter production this year was 61.2-million finished linear yards.

little in the new bill to cause jubilation among the liberal world-traders.

•

• Great Britain

Rayon weavers in Great Britain are warning that they need protective agreements with Japan and Hong Kong similar to the "agreements in principle" to curb cotton imports by India, Pakistan, and Hong Kong.

Rayon exports from Japan to Britain more than doubled last year. And with Hong Kong, a Crown colony, paying one-sixth less duty on exports to Britain than Japan pays, Hong Kong "will soon do to British rayon what it has already done to Lancashire cotton," the Rayon Weavers Assn. says.

Japan shipped nearly 22-million sq. yds. of rayon gray cloth to Britain last year. Hong Kong, in the three months of November, 1957, through January, 1958, shipped 2.5-million sq. yds. at an average price of 10¢ per sq. yd.

Cotton spinners and weavers are also still smarting about Hong Kong imports, in spite of the "agreement in principle" to curb them.

In the last seven years, Hong Kong's cotton-goods exports to Britain rose from 20-million sq. yds. a year to 100-million sq. yds.

One thing that nettles Lancashire textile men is that while they are suffering a stiff recession Hong Kong mills are running full-blast on 12-hour shifts. **Of the 19 new mills in Hong Kong, 10 are running 24 hrs. a day six and seven days a week.** The other nine new mills and the 149 older small weaving mills are running one 12-hr. shift six and seven days a week.

Labor is cheap; and in some mills operators get one day of rest after six days of work, in others after 14 days of work. Still other mills make no provision for rest days.

Lancashire men brand these methods as "unfair competition." But the government's position is that Britain has "special responsibilities" to its colonies and therefore cannot restrict Hong Kong's exports to Britain.

British woolen and worsted mills are irked by the U.S.'s Geneva Reservation arrangement that increases import duty from 25% to 45% when imports reach 5% of domestic production. U.S. imports of British woolen and worsted yarns and fabrics dropped $4-million from 1956 to 1957.

Canada's efforts to restrict imports from Britain for the protection of its own industry also bother British exporters.

Canada imported $51.3-million worth of woolen and worsted yarn and fabric from Britain last year, an increase of $4.2-million over 1956; but British mills fear that the present Canadian government may succeed in imposing protective quotas or import duties.

•

• Japan vs. Red China

Japan is becoming increasingly worried about the pressure of Communist China exports to Japanese textile markets in Southeast Asia.

The latest monthly bulletin of the Bank of Japan pointed out that China's trade with nine countries in Southeast Asia and the Middle East are climbing rapidly and that China is extending

"grants" to Cambodia, Nepal, Ceylon, and Egypt and low-interest loans to Yemen and Indonesia.

The Bank said, "The whole economic advance of the Soviet bloc—the Soviet Union, Red China, and Eastern Europeans—in Southeast Asia is shifting the balance of trade more toward the Soviet bloc."

The Bank reported that China's exports are beginning to pinch Japanese exports on some products in some areas.

An example is Indonesia.

In 1955, Indonesia imported about $6-million worth of cotton textiles from Red China and $23.5-million worth from Japan. In 1956, it imported $18.5-million from China and $35-million from Japan. In the first 11 months of 1957, imports from China amounted to $17.5-million and from Japan $31-million.

Nihhon Kezai, Japan's respected economic daily newspaper, pointed out that Red China's cotton-yarn exports to Hong Kong are priced 10¢ per lb. below world-market prices and cotton cloth is priced 2 to 3¢ a yd. below.

The Japanese Ministry of International Trade and textile-industry spokesmen say that Red China's trade is for political, not economic purposes; but Japan will have to take aggressive measures to meet it. Steps mentioned are: Japan must (1) switch to heavier exports and capital goods, (2) cut production costs and prices, and (3) extend long-term credits.

Restrictions on Cotton Are Hampering Its Use

LONDON—Cotton consumption will fall about half a million bales throughout the world next year, the International Cotton Advisory Committee, meeting here last month, forecast.

The U.S. and Canada, two of the world's largest consumers of cotton, will use less; and losses will be felt also in Western Europe, Japan, and India.

The chief reason for the drop in the world use of cotton is the high price of U.S. cotton.

Cotton production in the U.S. will be sharply reduced next year as a result of acreage curtailment, and the high price of cotton will be maintained. If domestic cotton prices in the U.S. were lowered, consumption there would increase and improve the world cotton situation.

●

Total world production will drop about half a million bales next year, ICAI forecast. Although U.S. production will drop much more than that, the slack will be taken up by increased production in Communist countries.

Over the long term, consumption will rise under the stimulus of growing world population and rising buying power; but the price of cotton vs. the price of man-made fibers will have a strong influence on how fast cotton consumption increases.

CONTINUED ON PAGE 8

Eire Stops "Dumping" U. S. Hosiery in Britain

U.S. hosiery manufacturers must stop dumping hosiery in Britain via Eire (Ireland), Eire's Minister of Industry and Commerce intimated rather ruefully last month.

The minister announced that Eire will limit nylon-hosiery exports to Britain.

For more than two years British hosiery manufacturers have been suspicious that U.S. unfinished hosiery was being shipped to Eire, finished there, and dumped on the market in Britain [Textile Business, Aug., 1957]. The Eire minister's announcement, they think, bears out their suspicions.

Irish sales of foreign-made (mainly U.S.) nylon stockings to Britain will be limited to the amounts exported in the year ending July 31, 1957.

Hosiery made entirely in Eire is not affected.

Wool-Blanket Production Changes Three-Year Trend

Production of wool and chiefly wool blankets turned up last year, to end a downtrend that started in 1954 and continued in 1955 and 1956, the Wool Bureau announced.

This upturn represents a strong trend back to wool for blanket use.

Production of blankets of all fibers took a sharp drop, from 96.7-million yds. in 1956 to 87.6-million yds. in 1957, a drop of 9.4%.

In the face of that general downtrend, all-wool or chiefly wool blankets rose 2.5% to 9-million yds.

The biggest loser was cotton, down 13.4%. Blankets wholly or chiefly of man-made fibers, primarily rayon and nylon, were down 8.2%; and blankets of "other man-made fibers," chiefly acrylics, were down 2.5% to about 4-million yds.

Print Cloth Steady

The better tone that developed in print cloth in May held last month, although sales were not developing very satisfactorily.

Mills had some good orders on the books, and the seconds market was exerting little pressure.

Price was a little better on some constructions. Standard-grade 39-in., 80x80, 4.00-yd. was holding at 17⅜¢, compared with 17¼¢ the month before.

TEXTILE BUSINESS

Employment Rises In Japan's Cotton Mills

Employment in Japanese cotton mills reached 129,045 workers last year, according to The Japan-U. S. Textile Information Service.

That was an increase of 929 over 1956 employment.

About 25,000 new workers were hired to take care of the increase and the labor turnover.

The work force consisted of 103,-251 women and 25,794 men. This proportion of women workers to men workers is about 50% higher than in other Japanese industries and largely accounts for the high labor turnover.

About 91% of the workers are members of labor unions, chiefly the Japan Federation of Textile Workers' Unions.

Working hours were reduced to 7¾ hrs. per day, with most mills running two shifts.

Workers' benefits include: 10 special holidays, two days a month paid sick leave for women, 12 weeks maternity leave, congratulations and condolence leaves, three-weeks vacation with pay, bonuses in June and December, and either free or less-than-cost meals, housing, hospitalization, insurance, and education and recreation activities.

Tire-Cord Use Rising in Replacements

Tire-cord use in replacement tires can only gain from continued doldrums in new-car production. The fewer new cars, equipped with five new tires, are sold the more replacement tires are sold.

Approximately 56,600,000 replacement tires were sold last year. The figure should climb to 58-million in 1958. At 2 lbs. of cord per tire, that amounts to 116-million lbs.

With nylon getting nearly half of that market and rayon the rest, that amounts to something like $85-million to $90-million worth of cord.

Bigger tires, using more cord, are coming to the fore in the replacement-tire market as cars with 14-in. and 15-in. wheels accumulate mileage.

Last year, the 6.70x15 tire accounted for 42.8% of replacement-tire sales. The 6.00x16 tire dropped to fourth place. The 6.70x15 tire, be-

Stable cotton prices at reasonable levels are the most urgent cotton need throughout the world.

Uncertainty over the future trend of prices, dual pricing systems, export subsidies, and special currency arrangements are hampering the free movement of cotton in world markets and working to the disadvantage of cotton as a competitive textile fiber.

New "Super-Super" Rayon Will Reduce Tire-Cord Market

The automobile industry will use less tire cord next year than this year unless there is an unexpected bumper crop of cars sold next year.

Reason: the new 1,100-den., two-ply "super-super" strength rayon has been adopted for all 1959 models. Only 1¾ lbs. of this yarn is needed per tire, compared with 2 lbs. of the old 1,650-den. tire yarn, a 12½% reduction in poundage.

But in dollars, the reduction is smaller. The new yarn is quoted at 63¢ per lb., 5¢ per lb. higher than the 58¢ per lb. quoted for the 1,650-den. yarn. So, much of the 12% reduction in yarn volume will be offset by the 9% higher price.

●

Nylon has temporarily lost its chance of breaking into the original-tire market on 1959 models.

For the time being at least, auto-makers have listened favorably to the rayon producers' claims for the new "super-super" yarn:

- Light weight (1,100 den. vs. 1,650 den.)
- High strength (25 psi.—50% greater than the 1,650-den. yarn)
- No appreciable elongation
- Heat resistance equal to nylon
- Semihydrophilic
- Cheaper (63¢ vs. $1.20 for nylon)

●

But rayon producers are not finding this business a bed of roses.

They are trying to find a new name for the new yarn besides "super-super rayon." They don't like either "super-super" or "rayon." What they want is a name that isn't associated with the unfortunate experiences of "rayon" and will rival "nylon" as a connotation for quality.

Also the margin of profit on the new yarn is not as good as on nylon. Unless some promotional appeal can be put into the new yarn, the producers may find nylon moving closer in price in a competitive bid for the market.

Producers are unhappy about being forced to "sell" directly to Detroit and the consumer, over the heads of the tire companies. Their promotion runs into millions of dollars each year, and tire companies can make or break any good yarn in the treating

process. At best, rayon producers are somewhat walking a tight rope.

●

Chevrolet's decision not to use nylon as a result of its test of "100-level" nylon tires [Textile Business, May, 1958] was based largely on the tendency of the tires to "flat-spot" when a car was parked for some time, overnight, for example.

When the car was started, the "flat spot" would bump each time the wheel turned until the flat spot worked out, after a mile of driving perhaps.

Marketing men feared that this "flat-spotting" would kill auto sales where potential customers went on short demonstration rides.

●

Auto production for the first six months of 1958 ran about 2.2-million passenger cars, down nearly a third from the first half of last year.

For the third quarter of this year, auto-makers have programmed a production of about 600,000 passenger cars, about 20%, or 120,000 of them, 1959 models. The program for the fourth quarter is 1.5-million units, all 1959 models.

So for the last six months of 1958 the auto industry will use about 10.5-million original-equipment tires on 2.1-million cars.

About 480,000 cars will be 1958 models equipped with about 2.4-million tires containing 4.8-million lbs. of 1,650-den. two-ply rayon cord.

The 1,620,000 1959 model cars will be equipped with 8.1-million tires containing a little over 14.1-million lbs. of the new 1,100-den. two-ply rayon.

That gives a total last-half original-equipment tire-cord market of a little over 18.9-million lbs., worth $11-million to $12-million.

U.S. Textile Machines Dominate Poland Trade Fair

POZNAN, POLAND—A complete cotton-spinning operation, from bale to clothing, was sponsored by the American Textile Machinery Assn. in the U.S. pavilion at Poland's International Trade Fair here last month.

The association collected and loaned over $150,000 worth of the latest U.S. equipment for the exhibit, the largest single U.S. display at any fair since the U.S. Commerce Dept. began its trade-fair participation program four years ago.

U.S. trade fair officials called the group's contribution a "striking example of industry-wide cooperation in helping promote American free enterprise behind the Iron Curtain."

The exhibit, covering 8,000 sq. ft. of floor space, showed new techniques in cleaning, picking, carding, drawing, combing, spinning, and weaving with modern equipment donated by a half dozen textile-machinery firms.

ing bigger, uses more fabric than the 6.00x16.

The newer 14-in. tire uses still more than the 15-in. tire. As the 14-inchers begin to wear out, fabric use will increase.

Russia Can Now Export Wool Fabrics in Volume

BRUSSELS—Russia now has a surplus of wool fabrics, and export is likely to start soon, a representative at Russia's exhibit at the Brussels World Fair told TEXTILE WORLD.

Textile and garment items in strong enough supply to export in volume so far have been only carpets and fur.

The Russians are not yet taking orders for export at the Fair, but enquiries about exports have been brisk. England, in particular, has shown interest in importing Russian carpets.

"Cotron" Term Protested

American Viscose Corp. may be prevented from using its term "Cotron" as a tradename for its rayon-cotton blend yarn.

Sen. Frank E. Smith of Mississippi asked the Federal Trade Commission to stop the use of the term. He said "Cotron" is a play on the word "cotton" and would mislead consumers.

Worsted-Yarn Sales Up

The worsted-yarn market was showing steady improvement last month, with sales running considerably better in both knitting and weaving yarns than earlier in the year.

Some spinning mills had orders on the books well into the fall, and the general feeling was that business is definitely on the upgrade.

Italy May Take Lead In Wool-Yarn Exports

MILAN—Italy, already the world's No. 1 wool-fabric exporter, appears to be heading for first place among wool-yarn exporters.

Italian raw-wool imports in 1957 zoomed up 41% over 1956, with Italy's wool-fabric exports rising 18% and wool-yarn shipments 41%. Wool-fabric exports last year amounted to 89-million lbs. and wool-yarn exports to 13.3-million lbs.

Index of manhours worked in the textile industry adjusted for changes in productivity

Textile World's Monthly Indicators

	Latest Month	Previous Month	Year Ago
Textile World's Index (1954 = 100)	**99**	**97**	**107**
Employment (thousands) B.L.S.	917.6	927.2	1,003.6
Production Workers (thousands) B.L.S.	828.0	837.1	911.2
Weekly Earnings B.L.S.	$55.58	$54.90	$57.60
Hourly Earnings B.L.S.	$1.49	$1.50	$1.50
Weekly Hours Worked B.L.S.	37.3	36.6	38.4
Production Index (1947–1949 = 100) F.R.B.	94	93	100
Wholesale Price Index (1947–1949 = 100) B.L.S.	93.5	93.7	95.4
Manufacturers' Sales (million $) Commerce	1,025	999	1,073
Manufacturers' Inventories (million $) Commerce	2,600	2,627	2,628
Inventories-to-Sales Ratio	2.54	2.63	2.45
Exports (million $) Commerce	132.2	118.0	196.6
Imports (million $) Commerce	N. A.	69.9	92.7
Stock Price Index (1941–1943 = 10) Standard & Poor's	21.04	20.42	21.61
Failures (number) Dun and Bradstreet	3	8	8

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947–1949 = 100) F.R.B.	127	126	144
Consumer Prices (1947–1949 = 100) B.L.S.	123.5	123.3	119.3
Wholesale Prices (1947–1949 = 100) B.L.S.	119.5	119.3	117.1
Population (millions) Census	171.0	170.8	167.9
Unemployment (millions) Census	4.9	5.1	2.7
Employment (millions) Census	64.1	62.9	65.2
Personal Income (billion $) Commerce	344.3	343.1	343.2

process. At best, rayon producers are somewhat walking a tight rope.

•

Chevrolet's decision not to use nylon as a result of its test of "100-level" nylon tires [Textile Business, May, 1958] was based largely on the tendency of the tires to "flat-spot" when a car was parked for some time, overnight, for example.

When the car was started, the "flat spot" would bump each time the wheel turned until the flat spot worked out, after a mile of driving perhaps.

Marketing men feared that this "flat-spotting" would kill auto sales where potential customers went on short demonstration rides.

•

Auto production for the first six months of 1958 ran about 2.2-million passenger cars, down nearly a third from the first half of last year.

For the third quarter of this year, auto-makers have programmed a production of about 600,000 passenger cars, about 20%, or 120,000 of them, 1959 models. The program for the fourth quarter is 1.5-million units, all 1959 models.

So for the last six months of 1958 the auto industry will use about 10.5-million original-equipment tires on 2.1-million cars.

About 480,000 cars will be 1958 models equipped with about 2.4-million tires containing 4.8-million lbs. of 1,650-den. two-ply rayon cord.

The 1,620,000 1959 model cars will be equipped with 8.1-million tires containing a little over 14.1-million lbs. of the new 1,100-den. two-ply rayon.

That gives a total last-half original-equipment tire-cord market of a little over 18.9-million lbs., worth $11-million to $12-million.

U. S. Textile Machines Dominate Poland Trade Fair

POZNAN, POLAND—A complete cotton-spinning operation, from bale to clothing, was sponsored by the American Textile Machinery Assn. in the U.S. pavilion at Poland's International Trade Fair here last month.

The association collected and loaned over $150,000 worth of the latest U.S. equipment for the exhibit, the largest single U.S. display at any fair since the U.S. Commerce Dept. began its trade-fair participation program four years ago.

U.S. trade fair officials called the group's contribution a "striking example of industry-wide cooperation in helping promote American free enterprise behind the Iron Curtain."

The exhibit, covering 8,000 sq. ft. of floor space, showed new techniques in cleaning, picking, carding, drawing, combing, spinning, and weaving with modern equipment donated by a half dozen textile-machinery firms.

ing bigger, uses more fabric than the 6.00x16.

The newer 14-in. tire uses still more than the 15-in. tire. As the 14-inchers begin to wear out, fabric use will increase.

Russia Can Now Export Wool Fabrics in Volume

BRUSSELS—Russia now has a surplus of wool fabrics, and export is likely to start soon, a representative at Russia's exhibit at the Brussels World Fair told TEXTILE WORLD.

Textile and garment items in strong enough supply to export in volume so far have been only carpets and fur.

The Russians are not yet taking orders for export at the Fair, but enquiries about exports have been brisk. England, in particular, has shown interest in importing Russian carpets.

"Cotron" Term Protested

American Viscose Corp. may be prevented from using its term "Cotron" as a tradename for its rayon-cotton blend yarn.

Sen. Frank E. Smith of Mississippi asked the Federal Trade Commission to stop the use of the term. He said "Cotron" is a play on the word "cotton" and would mislead consumers.

Worsted-Yarn Sales Up

The worsted-yarn market was showing steady improvement last month, with sales running considerably better in both knitting and weaving yarns than earlier in the year.

Some spinning mills had orders on the books well into the fall, and the general feeling was that business is definitely on the upgrade.

Italy May Take Lead In Wool-Yarn Exports

MILAN—Italy, already the world's No. 1 wool-fabric exporter, appears to be heading for first place among wool-yarn exporters.

Italian raw-wool imports in 1957 zoomed up 41% over 1956, with Italy's wool-fabric exports rising 18% and wool-yarn shipments 41%. Wool-fabric exports last year amounted to 89-million lbs. and wool-yarn exports to 13.3-million lbs.

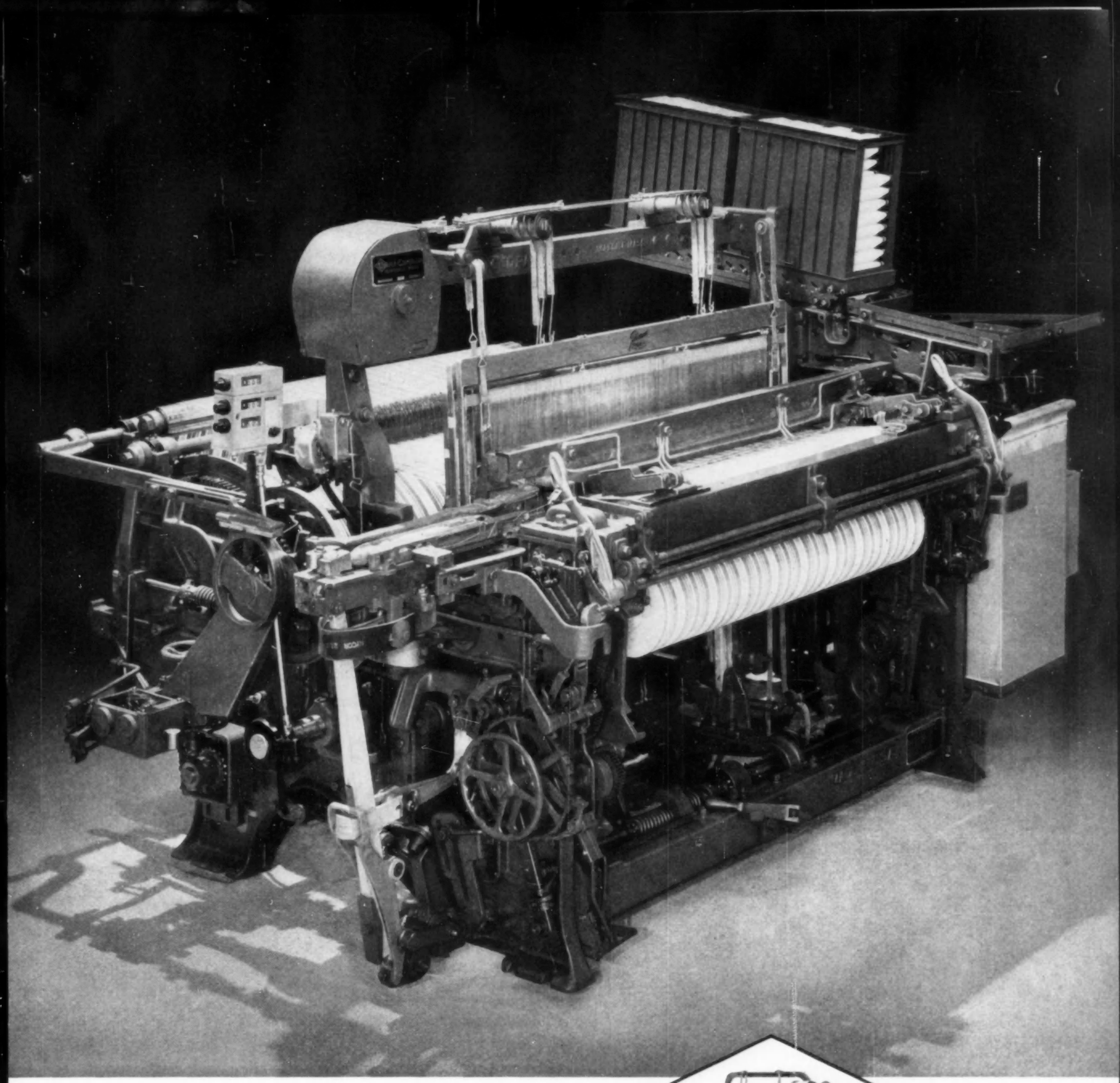
Index of manhours worked in the textile industry adjusted for changes in productivity

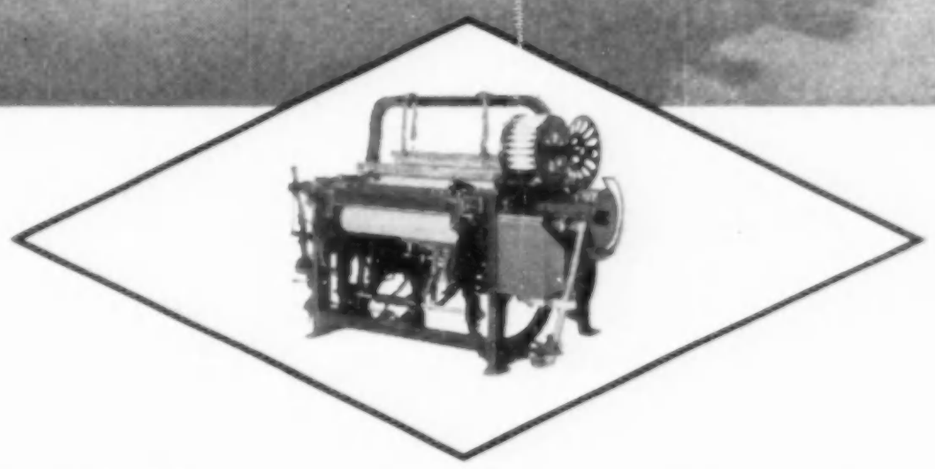
Textile World's Monthly Indicators

	Latest Month	Previous Month	Year Ago
Textile World's Index (1954 = 100)	**99**	**97**	**107**
Employment (thousands) B.L.S.	917.6	927.2	1,003.6
Production Workers (thousands) B.L.S.	828.0	837.1	911.2
Weekly Earnings B.L.S.	$55.58	$54.90	$57.60
Hourly Earnings B.L.S.	$1.49	$1.50	$1.50
Weekly Hours Worked B.L.S.	37.3	36.6	38.4
Production Index (1947–1949 = 100) F.R.B.	94	93	100
Wholesale Price Index (1947–1949 = 100) B.L.S.	93.5	93.7	95.4
Manufacturers' Sales (million $) Commerce	1,025	999	1,073
Manufacturers' Inventories (million $) Commerce	2,600	2,627	2,628
Inventories-to-Sales Ratio	2.54	2.63	2.45
Exports (million $) Commerce	132.2	118.0	196.6
Imports (million $) Commerce	N. A.	69.9	92.7
Stock Price Index (1941–1943 = 10) Standard & Poor's	21.04	20.42	21.61
Failures (number) Dun and Bradstreet	3	8	8

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947–1949 = 100) F.R.B.	127	126	144
Consumer Prices (1947–1949 = 100) B.L.S.	123.5	123.3	119.3
Wholesale Prices (1947–1949 = 100) B.L.S.	119.5	119.3	117.1
Population (millions) Census	171.0	170.8	167.9
Unemployment (millions) Census	4.9	5.1	2.7
Employment (millions) Census	64.1	62.9	65.2
Personal Income (billion $) Commerce	344.3	343.1	343.2





Obsolescence is natural . . . in textile machinery because of continual research and development • Modern Draper looms with countless new improvements save time and money in weave sheds throughout the world • New Draper looms keep your mill in a competitive position in todays changing markets.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

Whitin Spinning Changeovers

A recent installation of Whitin Spinning Changeovers

. . . the *SMART* way to stay COMPETITIVE

The Whitin 2-apron drafting system with over 12,000,000 spindles sold, has become an industry byword; its performance has created standards by which other systems are judged. Today's Whitin SUPER-DRAFT® which is now available as a Changeover on standard spinning frames, provides you not only with superb fiber control but also will operate on drafts up to 50 (or even higher) with no loss in yarn strength or quality.

While applying Whitin Super-Draft Changeovers, more and more mills grasp the opportunity to equip their frames with UNITROL,® Whitin's distinctive top arm weighting system. Unitrol supplements the performance of the Super-Draft system by insuring accurate, uniform weighting on all rolls while supplying Whitin antifriction front top rolls and non-lubricated middle and back rolls.

Mills using this combination of changeover units are enjoying such direct spinning benefits as reductions of 20 to 30% in end breakage and 30 to 40% in cleaning costs coupled with improved production per operator.

Call your Whitin Sales Engineer today! Ask him to look over your mill situation—he'll appreciate the opportunity of showing you how Whitin Spinning Changeovers can help you to stay competitive — the smart way.

Buy "competition insurance"- BUY WHITIN!

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

American Thread Co., New York, N. Y., is building a 20,000-sq.-ft. warehouse and pre-blending room at its Clover, S. C., plant. This building will represent an investment of $120,000.

Augusta Knitting Corp., Utica, N .Y., will move its operation at Utica to Lumberton, N. C., by the end of this year.

Barringer Hosiery Mill, Newton, N. C., manufacturer of full-fashioned hosiery, has closed. The machinery has been sold.

Berkshire Hathaway, Inc., Providence, R. I., will close its plant in Adams, Mass.

Betterwear Hosiery Mill, Inc., Charlotte, N. C., is the name of a new knitting mill chartered by the state with authorized capital stock of 1,000 shares of no par value.

Bigelow-Sanford Carpet Co., Thompsonville, Conn., will discontinue its Sanford Carpet Div. at the end of this year.

Bristol Worsted Co., Bristol, R. I., which had ceased operations a few months ago, has turned back the machinery and the building it had leased from Collins & Aikman Corp., New York, N. Y.

British Knit Canada Ltd., Simcoe, Ont., has closed for an indefinite period.

Cone Mills Corp., Greensboro, N. C., has acquired the controlling interest of Otto B. May, Inc., manufacturer of vat dyes, salts, and bases, Newark, N. J.

Coronet Ribbon Mills, Div. of Century Industries Co., Inc., Radford, Va., has named Frank G. Binswanger, Inc., exclusive agent for the sale or lease of the company's property and all equipment.

Crest Hosiery Mill, Hickory, N. C., has bought equipment from Cardinal Knitters, Inc., also of Hickory. With the new purchase, Crest will add infants' and misses' knitted socks to the men's sock line.

Diamond Hosiery Mill, High Point, N. C., is planning to build a 12,000-sq.-ft. addition at a cost of $20,000. It will be completed this year.

Florence Cotton Mills, Florence, Ala., has closed. The company employed 150 people.

Gastonia Weaving Co., Gastonia, N. C., has merged with a Staten Island, N. Y., mill. The machines are being moved from New York, and production will be concentrated in Gastonia.

Georgia Hosiery Mills, Blakely, Ga., has moved its main plant and office to Cave Spring, Ga. In addition to this unit, knitting operations are being established in Rome, Armuchee, and Villa Rica, Ga.

Hampshire Woolen Co., Ware, Mass., has bought the assets of Gonic Mfg. Co., Gonic, N. H.

Cyril Johnson Woolen Co., Stafford Springs, Conn., is entering the women's-wear market with woolens in all wool and blends for coats, suits, and sportswear.

Lebanon of California, Los Angeles, Calif., is building a cotton knitting, dyeing, and finishing plant with a capacity of 7.5-million yards annually and will be in operation by August 15.

James Lees & Sons Co., Bridgeport, Pa., has sold a 16½-acre manufacturing property that includes warehouse facilities. The company will lease back 40,000 sq. ft., which will be renovated and used for a laboratory, product-research facilities, offices, and a cafeteria.

Lynn Textile Mills, Inc., Holyoke, Mass., has completed a two-year $200,000 modernization program that increases its manufacturing capacity about 25%.

Maiden Spinning Mills, Maiden, N. C., is expanding operations to include a dyeing and finishing plant. Until now, the mill has produced undyed knit goods.

Mallory Mills, Inc., New Bedford, Mass., a weaving mill, has been bought by executives of Arcadia Co., textile converter, New York, N. Y. The plant will be operated by a newly formed corporation, Arco Mills, Inc.

McGregor Hosiery Mills Ltd., Toronto, Ont., is building a warehouse and office addition to its mill.

Oneita Knitting Mills, Andrews, S. C., has begun full production of athletic shirts and briefs, with 43 machines in operation.

Puritan Piece Dye Works, Inc., Paterson, N. J., is planning to cease operations.

Robertson Bleachery & Dye Works, New Milford, Conn., will cease operation about the middle of this month.

Rockford Textile Mills, Inc., McMinnville, Tenn., has signed a Fabulized licensing agreement.

Roxbury Dyeing Corp., Paterson, N. J., is the name of a newly incorporated dyeing and finishing plant. Incorporators are Mrs. Tina Shenker, William I. Shenker, and Martin F. Shenker.

Scranton Lace Co., Scranton, Pa., has changed its name to Scranton Corp.

Skyland Mfg. Co., Morganton, N. C., has broken ground for a 40,000-sq.-ft. plant costing $250,000.

J. P. Stevens & Co., Inc., New York, N. Y., has announced that the management of the company's manufacturing operation has been realigned into divisions according to basic fibers. These divisions are to. be known as the Cotton Div., Synthetics Div., and Woolen and Worsted Div. In addition to these there is the Finishing Div.

U. P. D., Inc., a wholly owned division of Allen Knitting Mills, Inc., Jamaica, N. Y., has bought several buildings totaling 222,000 sq. ft. from The Kendall Co., Boston, Mass., in Thrift, N. C. The buildings will house a newly formed subsidiary, Thrift Dye Works, Inc. The company will specialize in the dyeing and finishing of knitted Acrilan jersey.

Whitmire Hosiery Corp., Whitmire, S. C., is the name of a newly formed seamless-hosiery plant. A new concrete and brick-veneer plant will be built.

Textile World

CALENDAR

August

MIT, summer programs: Techniques in Textile Research, Aug. 18 to 22; Mechanics of Textile Structures, Aug. 25 to 29, Massachusetts Institute of Technology, Cambridge, Mass.

September

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Sept. 3

The Fiber Society, Inc., fall meeting, Queen Elizabeth Hotel, Montreal, Que., Sept. 9 & 10

Combed Yarn Spinners Association, annual meeting, The Cloister, Sea Island, Ga., Sept. 11 & 12

Sixth Canadian Textile Seminar, Queen's University, Kingston, Ont., Sept. 11 & 12

AATCC, Piedmont Section, Hotel Charlotte, Charlotte, N. C., Sept. 19 & 20

Textile Quality Control Association, fall meeting, Grove Park Inn, Asheville, N. C., Sept. 25 & 26

Northern Textile Association, annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H., Sept. 25 & 26

October

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Oct. 1

National Cotton Council, Chemical Finishing Conference, Washington, D. C., Oct. 1 & 2

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 6 to 10

North Carolina Textile Manufacturers Association, Carolina Hotel, Pinehurst, N. C., Oct. 9 & 10

Georgia Textile Operating Executives, fall meeting, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga., Oct. 11

ASME-ASLE Lubrication Conference, Statler Hotel, Los Angeles, Calif., Oct. 13 to 15

American Society for Testing Materials, Committee D-13, fall meeting, Sheraton-McAlpin Hotel, New York, N. Y., Oct. 14 to 17

Textile Recorder International Textile Machinery & Accessories Exhibition, Belle Vue, Manchester, England, Oct. 15 to 25

Southern Textile Methods & Standards Association, Clemson House, Clemson, S. C., Oct. 23 & 24

Alabama Textile Operating Executives, fall meeting on carding and spinning, Langdon Hall, Auburn, Ala., Oct. 25

Carded Yarn Association, annual meeting, The Homestead, Hot Springs, Va., Oct. 28 to 31

AATCC, national convention, Hotel Conrad Hilton, Chicago, Ill., Oct. 30 to Nov. 1

November

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Nov. 5

Textile Seminar, sponsored by University of Georgia, Div. of Clothing and Textiles in Extension, Teaching, Research, Georgia Center for Continuing Education, Athens, Ga., Nov. 7 & 8

Narrow Fabrics Institute, annual meeting, Hotel Roosevelt, New York, N. Y., Nov. 17 to 19

December

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Dec. 3

1959

January

Plant Maintenance & Engineering Show, International Amphitheatre, Chicago, Ill., Jan. 20 to 30

March

American Cotton Manufacturers Institute, annual convention, Palm Beach Biltmore Hotel, Palm Beach, Fla., March 19 to 21

April

The Fiber Society, Inc., spring meeting, Fontana Village, N. C., April 29 & 30

May

Cotton Research Clinic, sponsored by the National Cotton Council, Grove Park Inn, Asheville, N. C., May 12 to 14

June

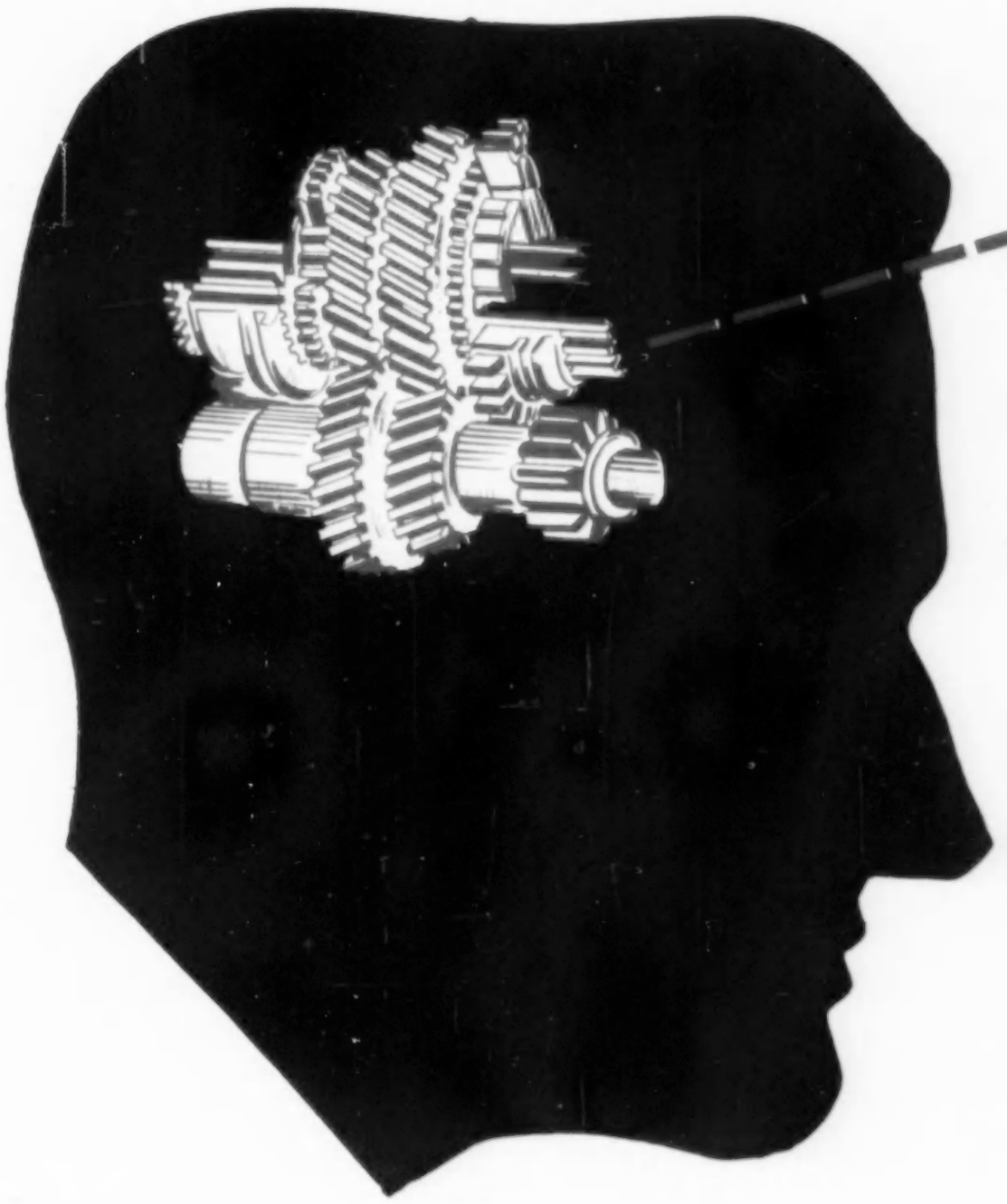
Material Handling Institute's Exposition, Public Auditorium, Cleveland, Ohio, June 9 to 12

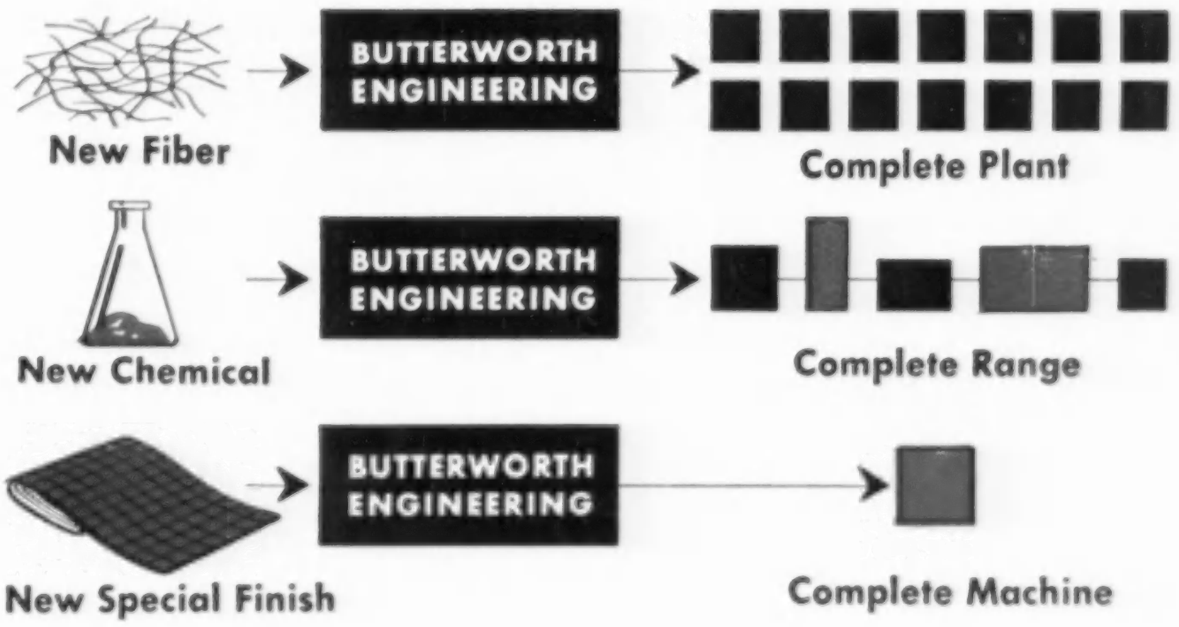
1960

May

American Textile Machinery Exhibition, Atlantic City, N. J., May 23 to 27

nothing to start with . . . BUT . . . an idea!





Butterworth experience and skill in Developmental Engineering are ready to work for you, to translate your ideas into realities — into the process, the product, or the machine you need to push back the horizons of your industry.

At Butterworth your assignment is top-drawer classified, with complete secrecy guarding each step. Butterworth engineers become your engineers, producing precisely the end result you need. Got an idea clamoring for development? Then write or call Butterworth today.

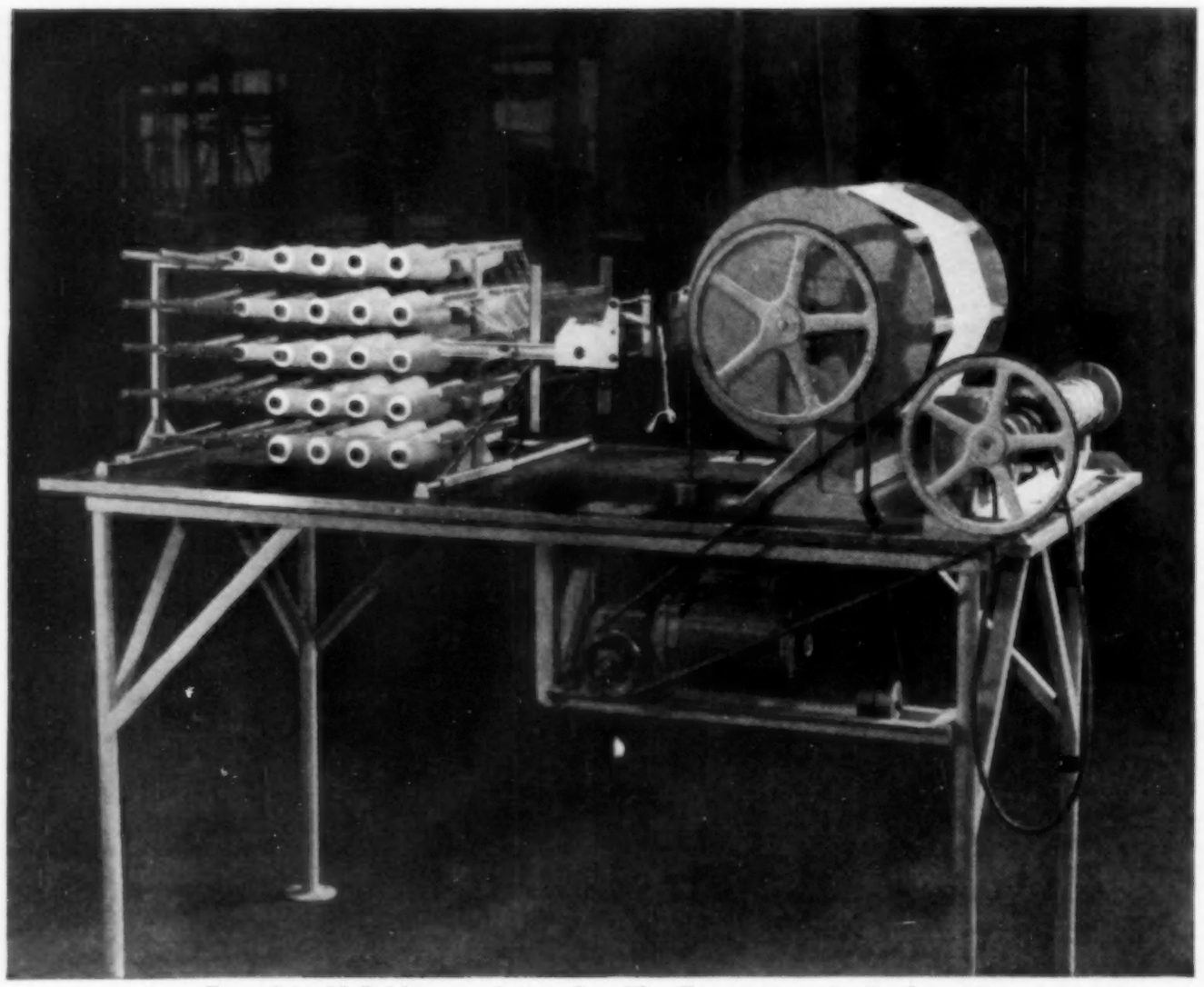
Developmental Engineering • Research • Machine Building

H. W. BUTTERWORTH & SONS CO.

Bethayres, Pennsylvania DIVISION OF VAN NORMAN INDUSTRIES, INC.

For more data, write this page number on Reader-Service card. →

McBRIDE CREEL CORNER



Complete McBride warping unit with all component attachments designed especially for Laboratory and Design Departments.

How to Eliminate Costly Hand Warping Methods in Your Laboratory and Design Departments

This new McBride warping unit is unique. It is designed specifically to meet the needs of laboratories, design departments, textile schools, fabric stylists, and other uses where production runs do not occur. A completely modern unit, it eliminates costly hand methods and provides more uniform warps.

The unit is complete with creel, warping reel, and beaming head. The entire unit is mounted on a platform which can be supplied with or without steel legs. A creel for the unit can be supplied for revolving draw off, as shown, for yarn supplied on tubes and spools. For over-end delivery of yarn creel is complete with tensions, bowed spring spindles, universal cone holders, and pirn adapters to permit ready adaptability to virtually any type package.

The Revolving Draw Off Creel is movable from side to side to align with sections required for the warp. A movable Hack Stand is provided for the creel with over-end draw to align with sections required for the warp.

The Reel as well as the beaming attachment is power driven.

Motors available in 110, 220, or 440 volts with convenient extension cord.

CREELS for every purpose, **CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.**

COMPLETE ENGINEERING SERVICE IS PART OF EVERY McBRIDE INSTALLATION

Mc BRIDE

COTTMAN AVE. & WISSINOMING ST.
PHILADELPHIA 35, PENNSYLVANIA

IN THE MIDWEST:
ALBERT R. BREEN
80 E. JACKSON AVENUE
CHICAGO 4, ILLINOIS

IN CANADA:
HUGH WILLIAMS & CO.
27 WELLINGTON STREET
E. TORONTO 1, ONTARIO

Letters From Readers

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

ONE HOSIERY MILL MAKES PROFITS

Dear Editor:

The article, "What's Happening In the Knitting Business" [TEXTILE WORLD, April, '58, p. 59], pointed out some of the reasons for the low profits made by hosiery mills.

Contrary to most mills, our mill experienced one of its best years in 1957. We have a policy of cutting out all unprofitable items.

The policy has some drawbacks. Some machines stand idle and some workers are laid off, but the mill keeps running.

One of our problems has been the relocation of supervisors We solved it by putting them back on fixing or production work.

When these supervisors go back to their old jobs, they have a better concept of the job. In many cases, they do a much better job than the previous fixers or operators.

R. H. M.

Chattanooga, Tenn.

LIMIT SWITCH IMPROVES BOBBIN BUILD

Dear Editor:

The article on eliminating thick places in yarn [TEXTILE WORLD, Feb., '58, p. 149] was read with much interest. Articles such as this have been helpful in enabling us to learn more about the problems in textile mills. We can then be of more direct service to individual mills.

While reading the article, I noticed

This spindle wasn't guaranteed to operate for 22 years...

BUT IT DID!

It has been running since 1936

...largely because it was equipped with an SKF bolster.

Who knows how many more years it will run!

You are always sure of long service life (that far outlasts so called "guarantees") when you specify SKF-equipped spindles. You also can count on:

1. The bearing radial capacity you need to carry bigger packages.
2. The separate damping mechanism feature that minimizes vibration, reduces chances of ends down.
3. The low torque, free running you need to maintain uniform speeds.
4. Maintenance savings, because you only oil these spindles every 3 to 6 thousand operating hours . . . and you *oil them on the frame!*

Why not make sure you keep on getting this long service life and these extra features? Simply specify "SKF-equipped". . . *accept no substitutes.* 7842

Spherical, Cylindrical, Ball, and Tyson Tapered Roller Bearings

EVERY TYPE—EVERY USE

SKF®

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

®REG. U. S. PAT. OFF.

MODERN DYEHOUSE EQUIPMENT

THE DEPENDABLE KWG SKEIN DYEING MACHINE

KWG Double Reel Skein Dyeing Machine —all stainless steel unit built in capacities to 1000 pounds.

FOR QUALITY DYEING
WITHIN INCREASED BUT MORE NORMAL TEMPERATURE and PRESSURE LIMITS

Perfection in dyeing—for natural and the new synthetic fibers—is yours with KWG Skein Dyeing machines. Rugged construction . . . improved **'Ferris-Wheel' performance . . . give you the penetration and evenness of color**—the permanence of tone—for that extra measure of sales appeal—without concern for costly high-temperature, high-pressure methods. Dual-operations possible including scouring, dyeing and shrink-proofing, or scouring, bottom bleaching and dyeing of pastel shades.

You can point the way to extra sales . . . extra profits . . . today by writing Klauder Weldon Giles. A KWG representative will be glad to survey your needs. If necessary, he'll design special equipment to your specifications. There's no obligation.

Klauder Weldon Giles MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET • PHILADELPHIA 24, PA.

that this solution to the problem is similar to the idea we have used successfully for spinning frames. However, we knock off the frame at the beginning of the last down stroke on filling-yarn builds instead of the bottom of the traverse.

We replaced the knock-off lever shown in the photo accompanying the article with a ILS1 switch and redesigned the cam on the ratchet wheel. The action is similar to the one described in the article, but it does not require the lever linkage or the pin on the ratchet. Elimination of these points means fewer wear points.

Other advantages of this installation include (1) more-precise control and adjustment so that the guide rail stops at the doffing position, (2) simplified arrangement that requires only one cam attached to the ratchet and mounting switch, (3) simple wiring to either push-button stop-and-start or the stop-motion circuit, and (4) a two-circuit switch that allows operation of the signal device when the frame stops.

This problem of uniform bobbin size seems to be gaining more attention by mills since they switched to individual motor drives for each frame. We don't see much of the line-shaft drive where one motor drives two or more frames.

HARRY C. BROWN
Micro Switch, Div. of Minneapolis-Honeywell Regulator Co.
Chattanooga, Tenn.

URGENT NEED FOR TEXTILE SALES TRAINING

Dear Editor:

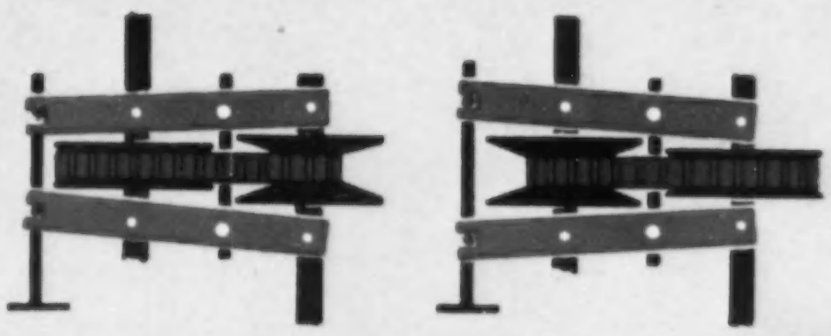
Many textile mills have emphasized supervisor and worker training in the last few years. TEXTILE WORLD has published a number of articles on this subject.

This training is important because modern machines and methods require more supervision. The complexity of today's textile mill and the materials used in the mill demand supervisors with greater ability.

However, when conditions are slack like they are now, good supervisors are easier to get. We have a number of excellent people from mills that have closed or are on short time on our waiting list right now.

What we need more urgently today are sales people to go out and sell the goods we make. Training of good sales people is of utmost importance to the textile industry today.

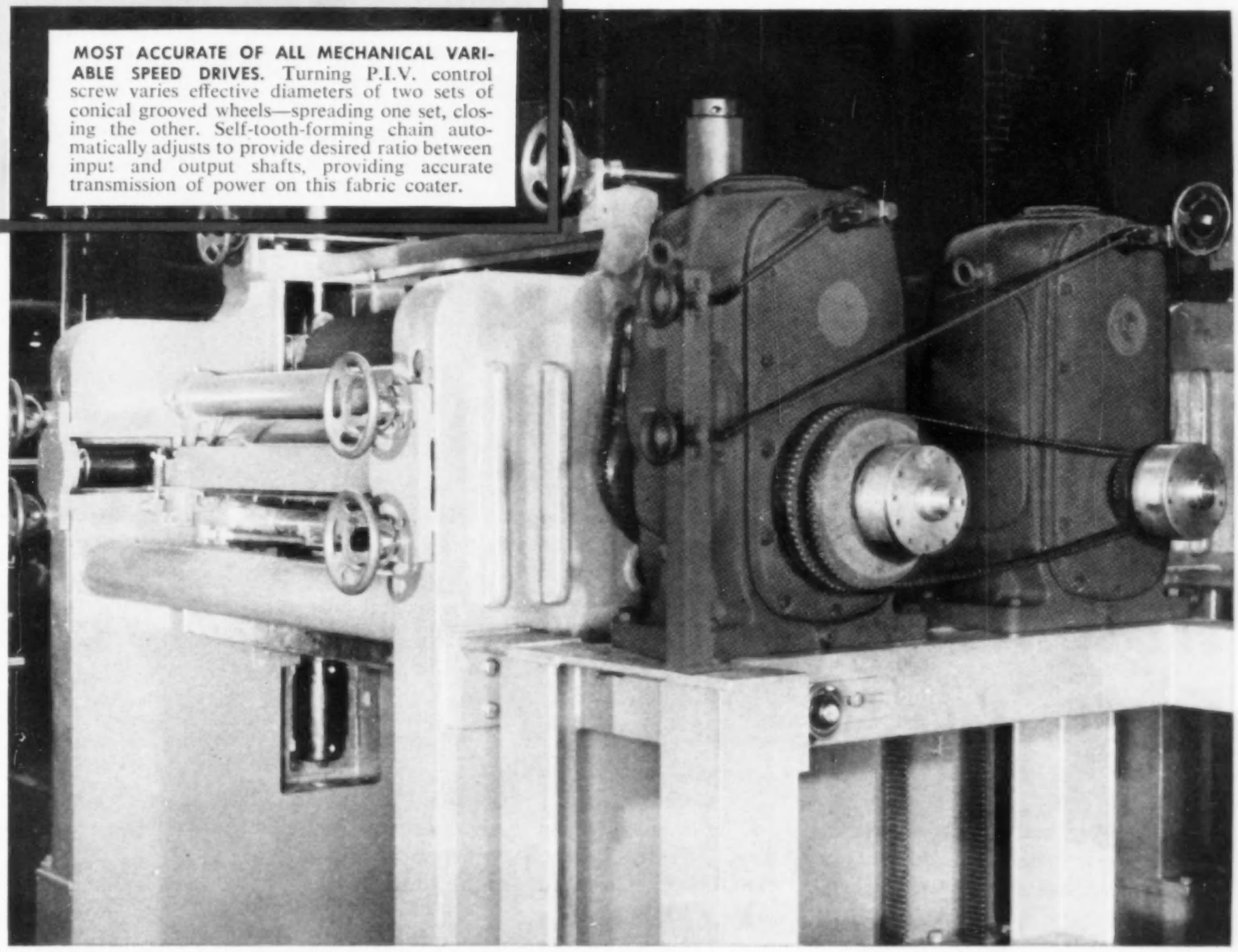
E. C. M.
Charlotte, N C.



In principle . . .

in performance . . .

MOST ACCURATE OF ALL MECHANICAL VARIABLE SPEED DRIVES. Turning P.I.V. control screw varies effective diameters of two sets of conical grooved wheels—spreading one set, closing the other. Self-tooth-forming chain automatically adjusts to provide desired ratio between input and output shafts, providing accurate transmission of power on this fabric coater.



for positive, infinitely variable speed control

. . . there's nothing like P.I.V.

Here's a variable speed drive that is truly unique. Unlike conventional designs, Link-Belt P.I.V. with its all-metal chain drive is *not dependent on friction* for transmitting power.

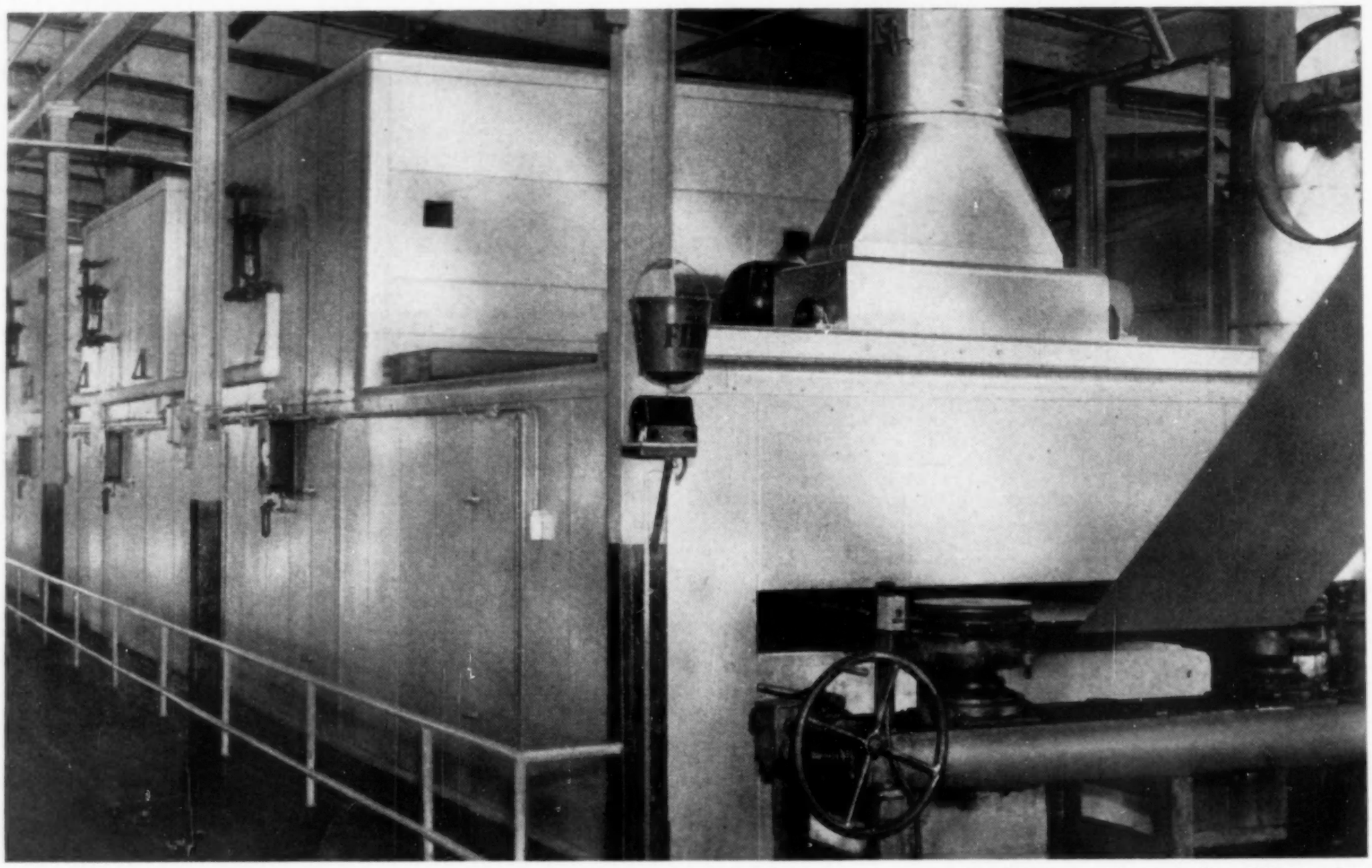
P.I.V. permits fast, easy speed changing too. You can select any speed in its range—find it instantly, hold it indefinitely. No bother stopping the drive.

Because Link-Belt P.I.V. (Positive, Infinitely Variable) drives are fully enclosed, atmospheric conditions can't affect their efficiency. They're made in 8 sizes, 16 standard types. Ask your nearest Link-Belt office or authorized stock-carrying distributor for Book 2274.

LINK-BELT

P.I.V. VARIABLE SPEED DRIVES

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants and Sales Offices in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World. 14,842



ALUMINIZED STEEL was specified for this tenter dryer housing to provide **protection without paint.**

How Armco ALUMINIZED STEEL Cuts Textile Mill Maintenance

NEEDS NO PAINT . . . OUTLASTS GALVANIZED

Textile dryer housings, ductwork, doors—even entire buildings—last longer, need less maintenance when they're made of Armco ALUMINIZED STEEL Type 2.

There's good reason. This durable steel has a specially-applied hot-dip coating of aluminum. Eighteen-year tests show that this aluminum coating outlasts a standard coating on unpainted commercial galvanized steel sheets 3-to-1 in the atmosphere. There's no need to paint for corrosion resistance.

For more information about Armco ALUMINIZED STEEL Type 2, just fill in and mail the coupon or call your nearest Armco Sales Office. Ask, too, for information about high quality Armco Stainless Steels, or Armco ZINCGRIP® Steel for textile mill applications.

ARMCO STEEL CORPORATION
1688 Curtis Street, Middletown, Ohio

Send more information about
- ☐ Armco ALUMINIZED STEEL Type 2
- ☐ Armco Stainless Steels
- ☐ Armco ZINCGRIP

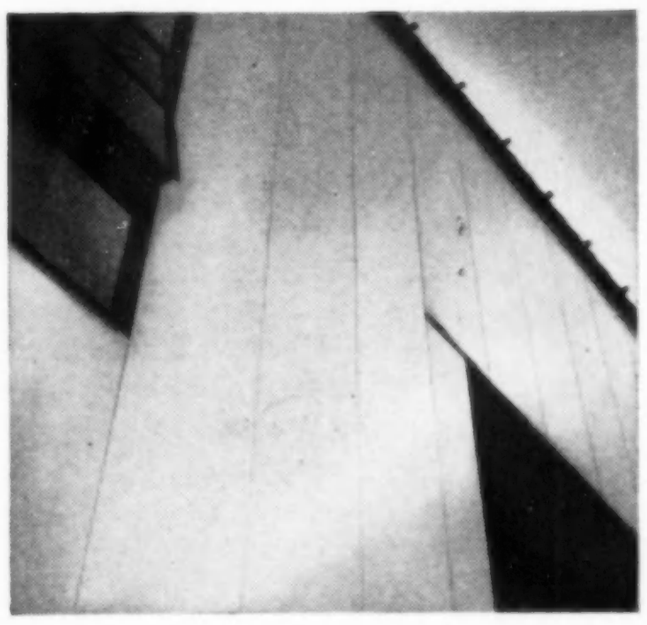
NAME_____

TITLE_____

COMPANY_____

STREET_____

CITY_____ ZONE____ STATE_____

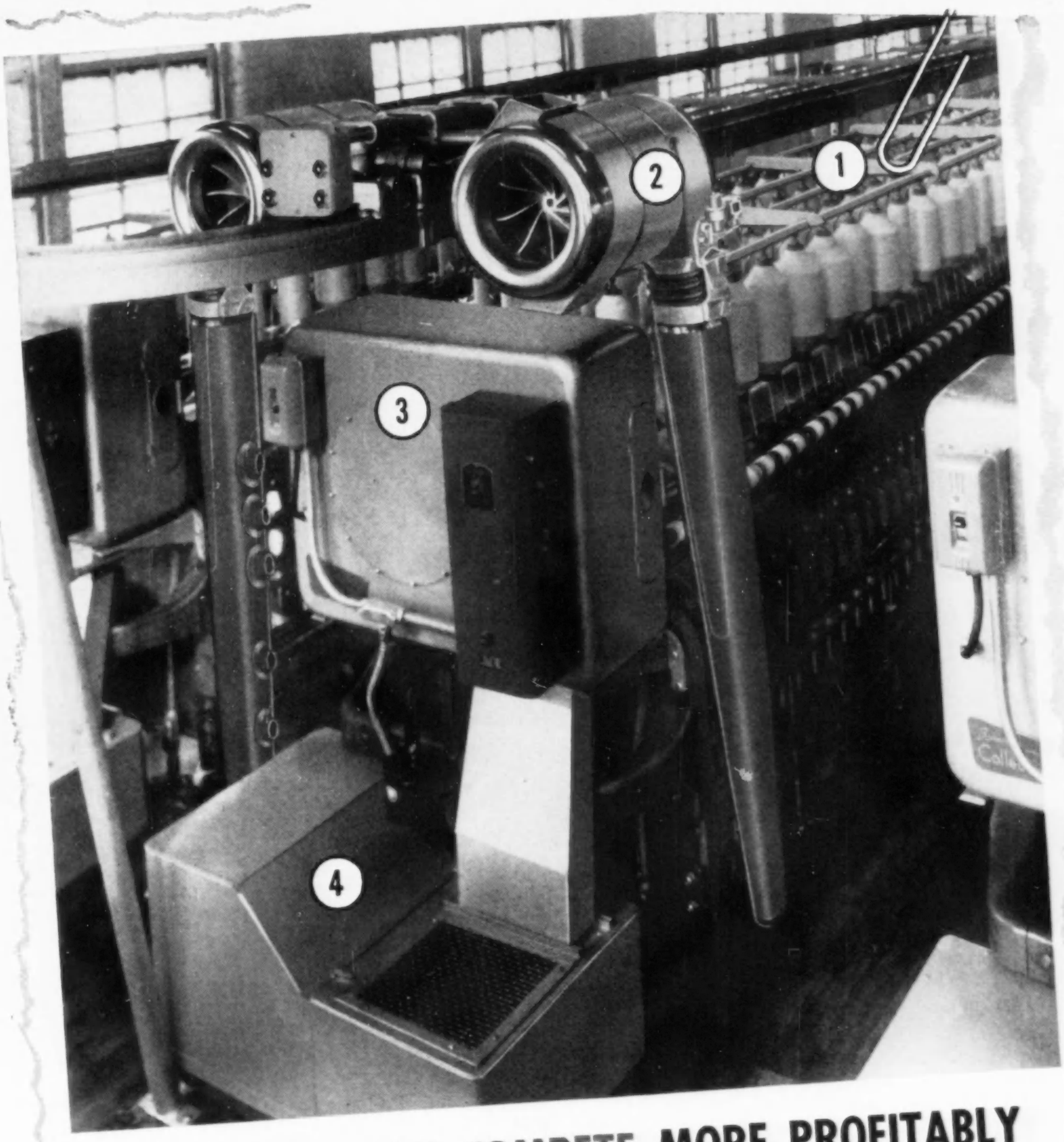


These building panels of Armco ALUMINIZED STEEL Type 2 are still attractive after more than three-years' service in an industrial atmosphere.

ARMCO STEEL

ARMCO STEEL CORPORATION • 1688 CURTIS STREET, MIDDLETOWN, OHIO

SHEFFIELD DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION



J.V.
this looks interesting-
what do yor think Bill

Bill-
Certainly think now is the time to look into it. J.V.

Let's check with Bahnson right away - ask for more details on the equipment.
Bill

YOUR MILL CAN COMPETE MORE PROFITABLY WITH THIS KIND OF MODERNIZATION

Note the spinning frame in the picture. It has been modernized with specialized *all Bahnson* equipment. The resulting benefit is a greatly improved competitive position for this mill through substantial annual savings on direct labor costs and increased production of a better quality product. Co-ordinated modernization with one source added initial savings,too.

In the modernization of this spinning room Bahnson co-ordinated the installation of the following specialized equipment, numbered in the illustration:

1. Bahnson OPEN-AIRE CREEL, the only open creel made of rugged steel with baked enamel finish.
2. Bahnson CROSS-JET CLEANER for cleaning entire frame in addition to walls and ceilings.
3. Bahnson COLLECTO-VAC for uniform collection of ends, lint, and fly through warp-free aluminum flutes.
4. Bahnson CENTRAL HEAT REMOVAL to take out heat from collection units and motor alley.

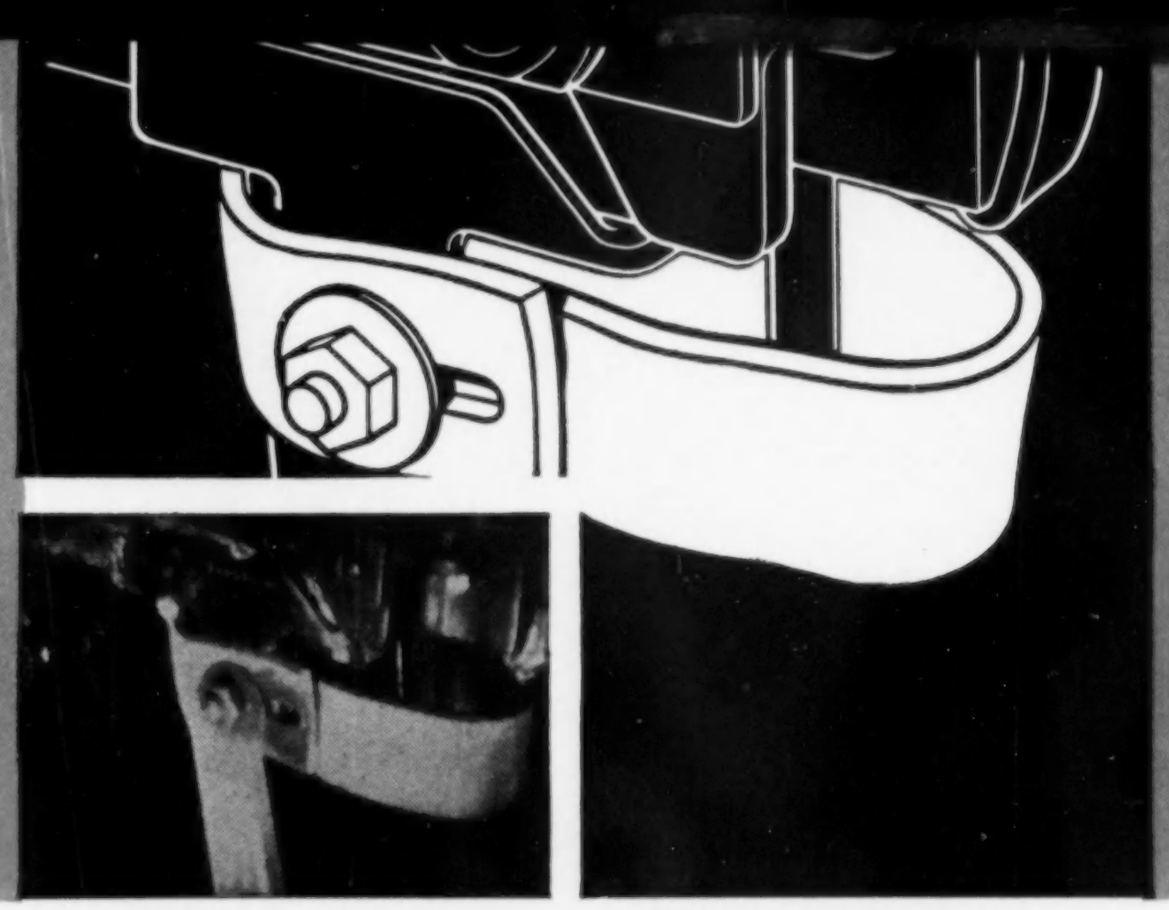
Bahnson representatives will be pleased to explain the application of this kind of modernization to your individual mill need. Write or call Bahnson today. No obligation.

Bahnson
COMPANY
WINSTON-SALEM, N. C., U. S. A.

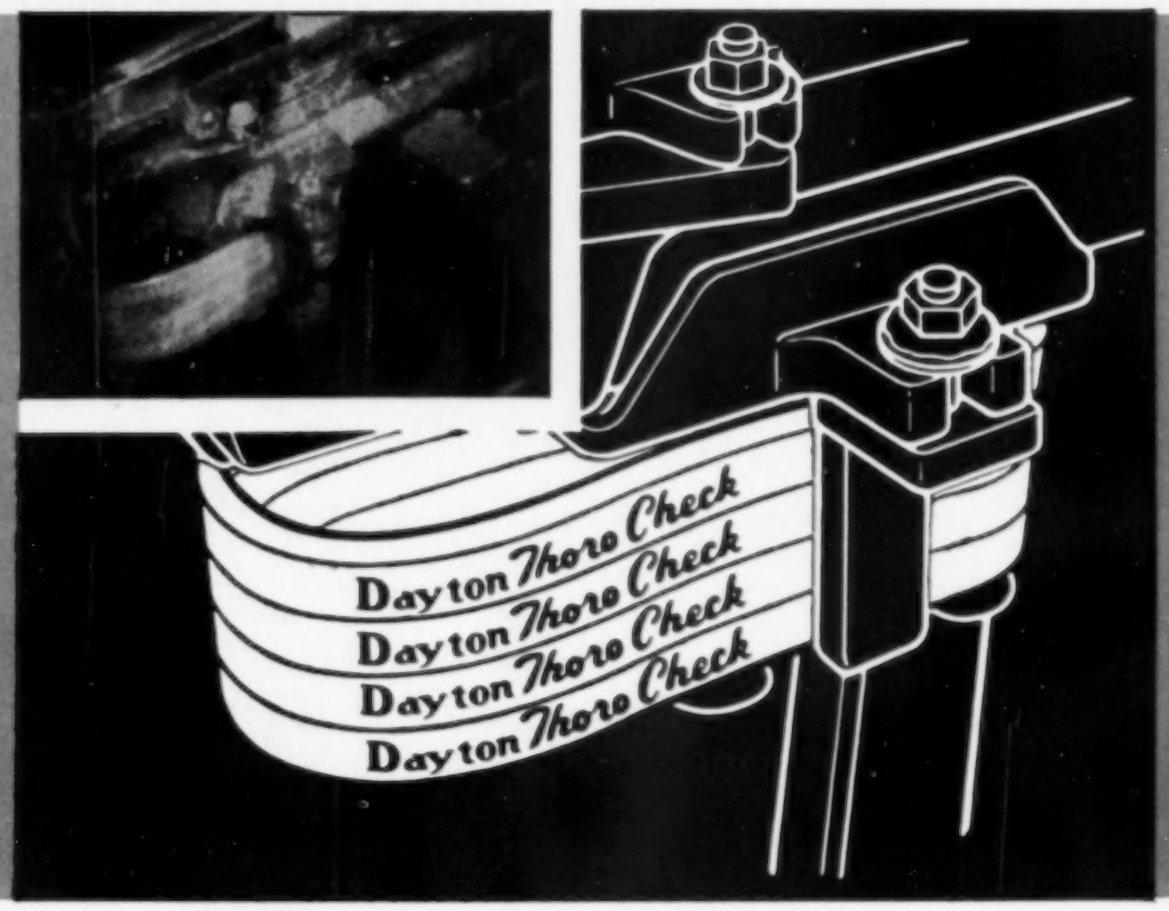
Air Conditioning
Vacuum Collection
Central Heat Removal
Cleaning
Creels

For more data, write this page number on Reader-Service card. →

In these unretouched high speed photos (insert) you see for the first time the uncontrolled checking action of a side-clamped one-piece check strap. These artist's drawings show this action enlarged.



Positive proof of the superiority of Dayton Endless Thoro-Check Straps is seen in these unretouched photos taken at 2500 frames per minute. This action is enlarged in the artist's drawings.



High Speed Camera Reveals Action with

It happens so fast that no one has ever seen precisely how a check strap operates. That is, until Dayton photographed the action with a high speed camera exposing 2500 frames per minute. For the first time, you can see what actually happens in the less than 1/5 of a second it takes to cast the shuttle.

First, you see three unretouched frames taken from a film showing the action of a one-piece check strap. Photo #1 shows the picker stick midway in its stroke. Photo #2 shows how the one-piece check strap has begun to drag on the stick, interfering with the action.

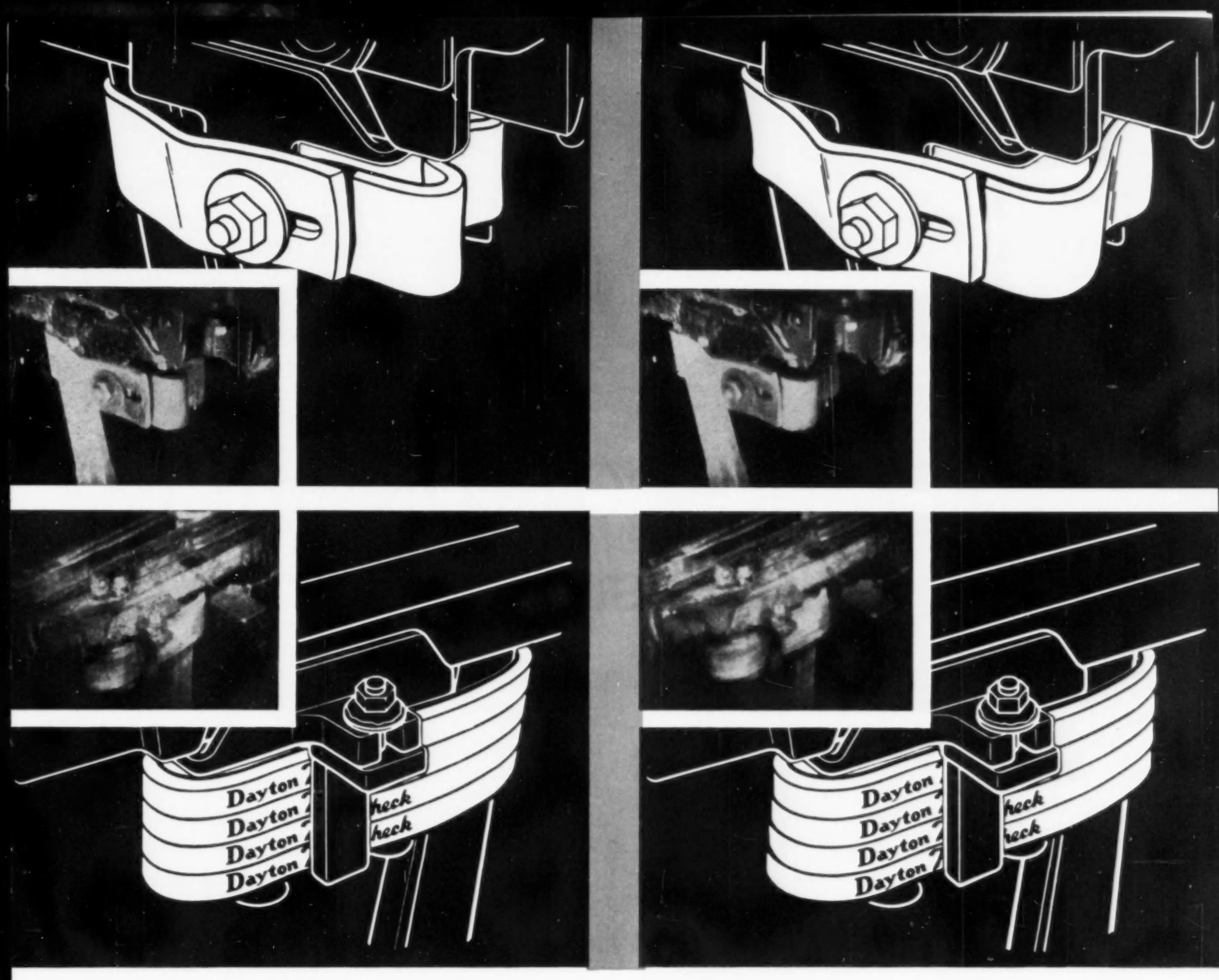
You'll notice that the check strap is starting to climb the face of the stick and is being severely stretched at a point just ahead of the clamp.

Now look at the loose end of the one-piece check strap in the second and third photos. The tuck which appears on the slack side of the strap indicates that the dragging action is so strong that the strap is jerked forward at an uneven rate of speed. (This action is impossible to see with the naked eye.)

With the hard wear they receive during this uneven checking cycle, it's no wonder that one-piece straps need constant adjustment and last only ⅓ to ½ as long as a set of endless Dayton ThoroCheck Straps.

Now, you'll want to see the action of a set of endless Dayton ThoroCheck Straps. The first of the three photos shows how the ThoroCheck Straps conform to the incline of the picker stick as it is whipped forward to cast the shuttle.

Photo #2 shows the Dayton ThoroCheck Straps



Perfect Checking Dayton ThoroCheck Straps

slowing the picker stick to a smooth, graduated stop. Notice that there is no deformation of the endless straps and no evidence of any jerking action.

Photo #3 demonstrates the controlled elasticity of the ThoroCheck Straps as they assume their original shape at the end of this action.

With the evidence before you, you can see why mill after mill reports that Dayton ThoroCheck Straps last longer, require less adjustment, and give vital shock protection to their looms.

If you'd like to see the actual film from which these photos were taken, ask your Dayton Representative when it will be available. Or, write The Dayton Rubber Company, Textile Division, 401 S. C. National Bank Building, Greenville, South Carolina.

Dayton Rubber

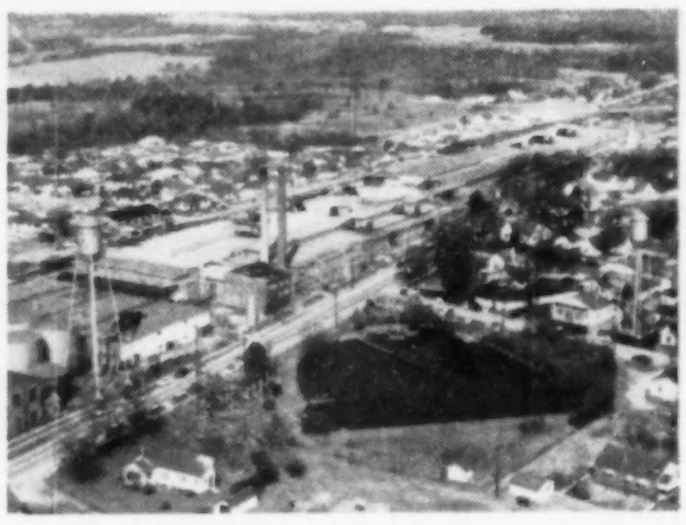
Dayco and Thorobred Textile Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO. LTD., DUNDEE, SCOTLAND

© D. R. 1958

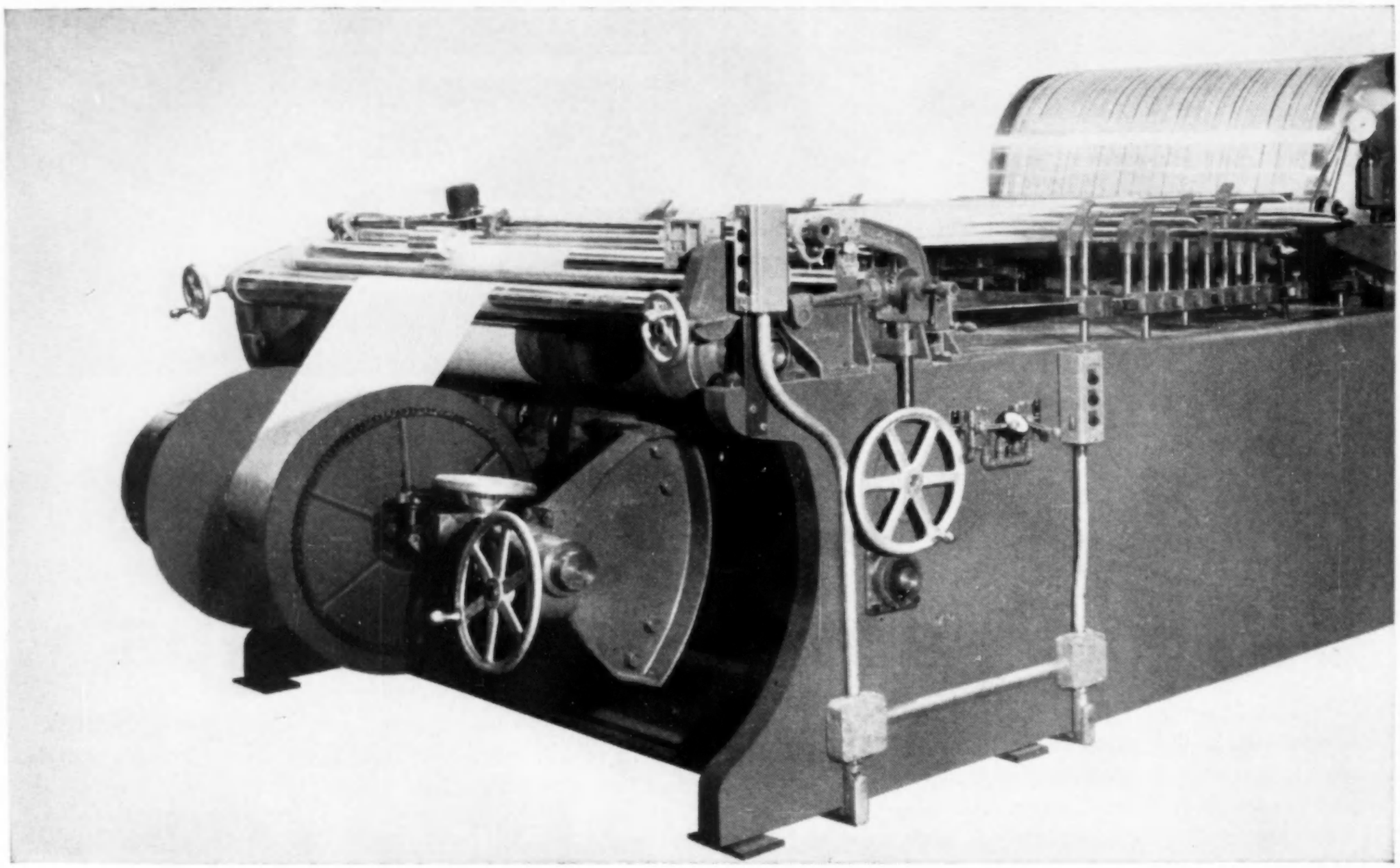
LANCASTER, S. C. 14 West Point 9-cylinder slashers provide slashing capacity for over 9,000 looms in this plant!

FORT MILL, S. C. Four West Point 11-cylinder giants are each slashing at the rate of 1850 to 2500 pounds of warp per hour



KERSHAW, S. C. Three West Point 9-cylinder slashers provide drying speeds of about 125 yards per minute.

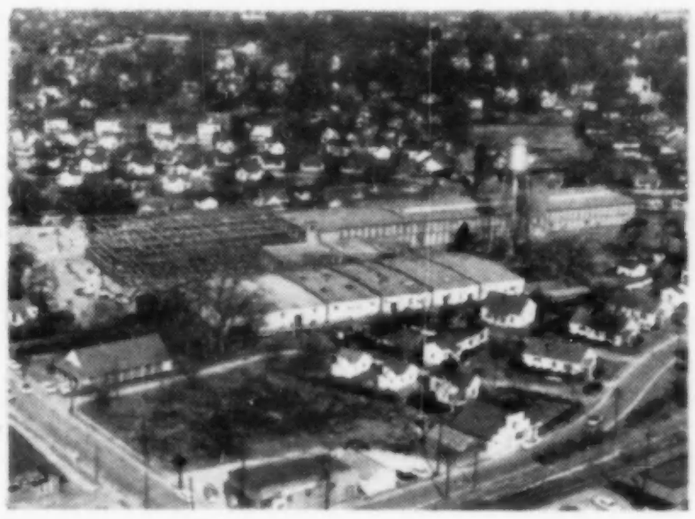
SPRING COTTON MILLS
28 West Point Foundry



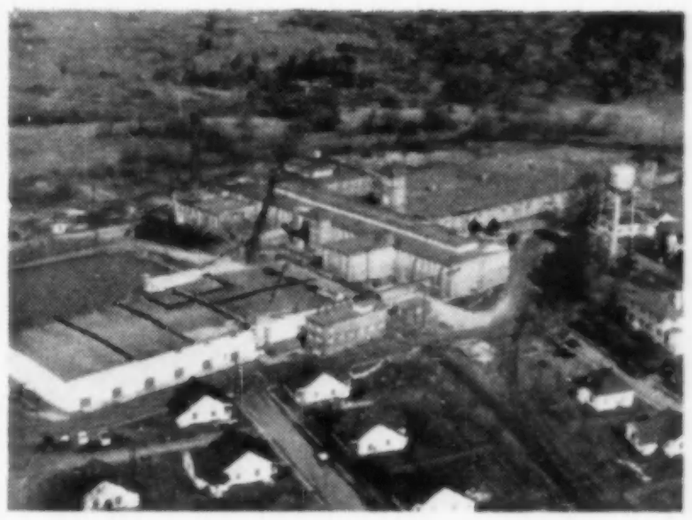
West Point Slashers provide *higher* drying rates, *better* warps

Here are high speed performance and economy you, too, can depend on! The West Point MULTI-CYLINDER Slashers have recorded drying rates of 1590 to 1635 pounds per hour on nine cylinders, and the 11-cylinder slashers have turned in record performances of 1850 to 2500 pounds per hour. Speeds of 110, 125, and 150 yards per minute are achieved regularly without sacrificing the high quality necessary in today's exacting textile operations.

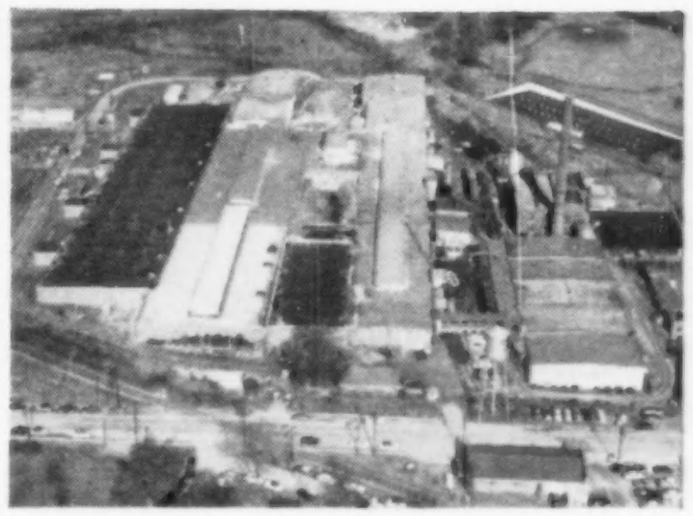
West Point Slashers can do the job for you regardless of fibre requirements. The Teflon coating on entering cylinders make them completely applicable



SPRINGSTEEN, CHESTER, S. C. One West Point 9-cylinder replaced two 3-cylinder slashers for higher production in less space.



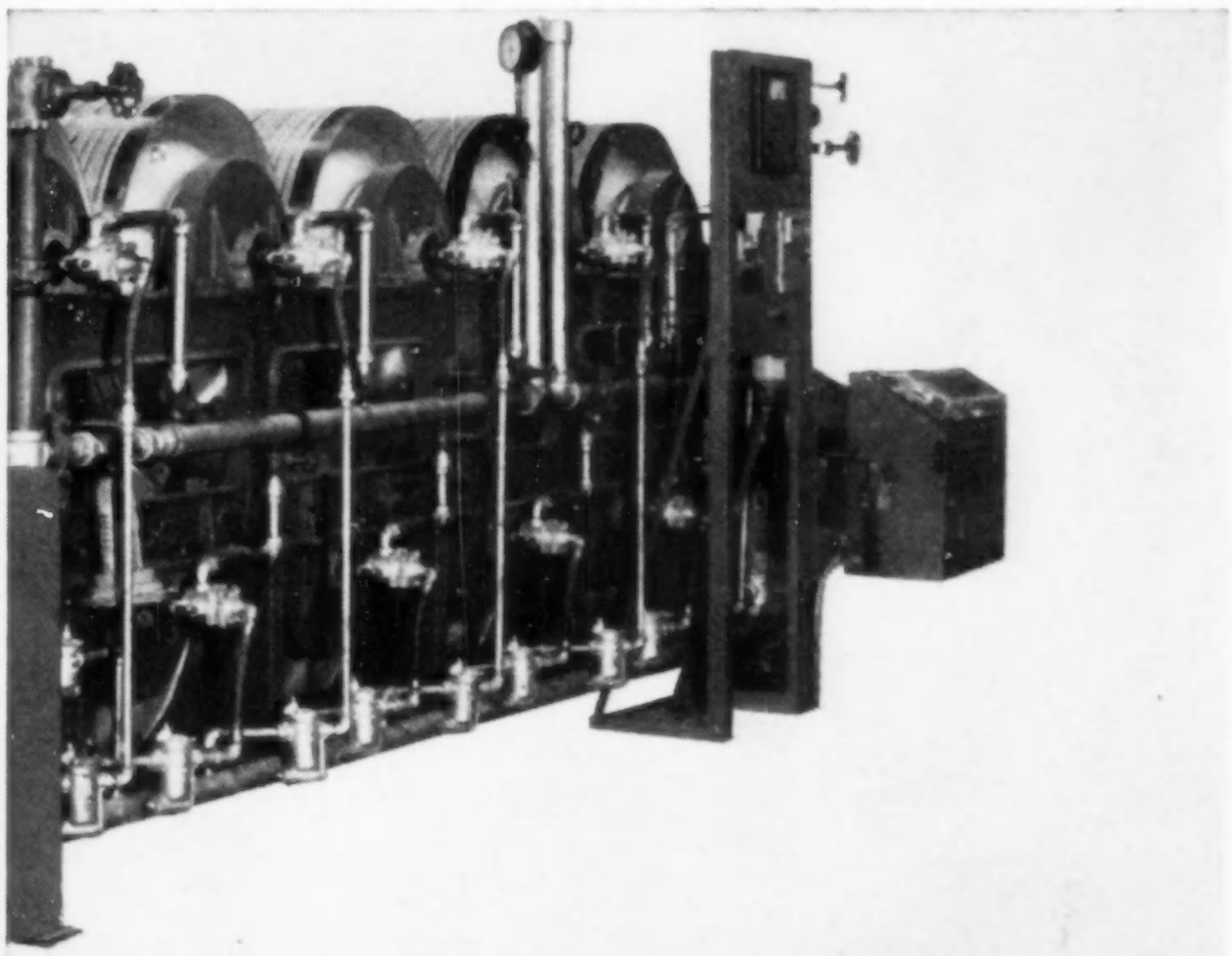
GAYLE, CHESTER, S. C. Three West Point 9-cylinder slashers more than answer highest production and quality requirements.

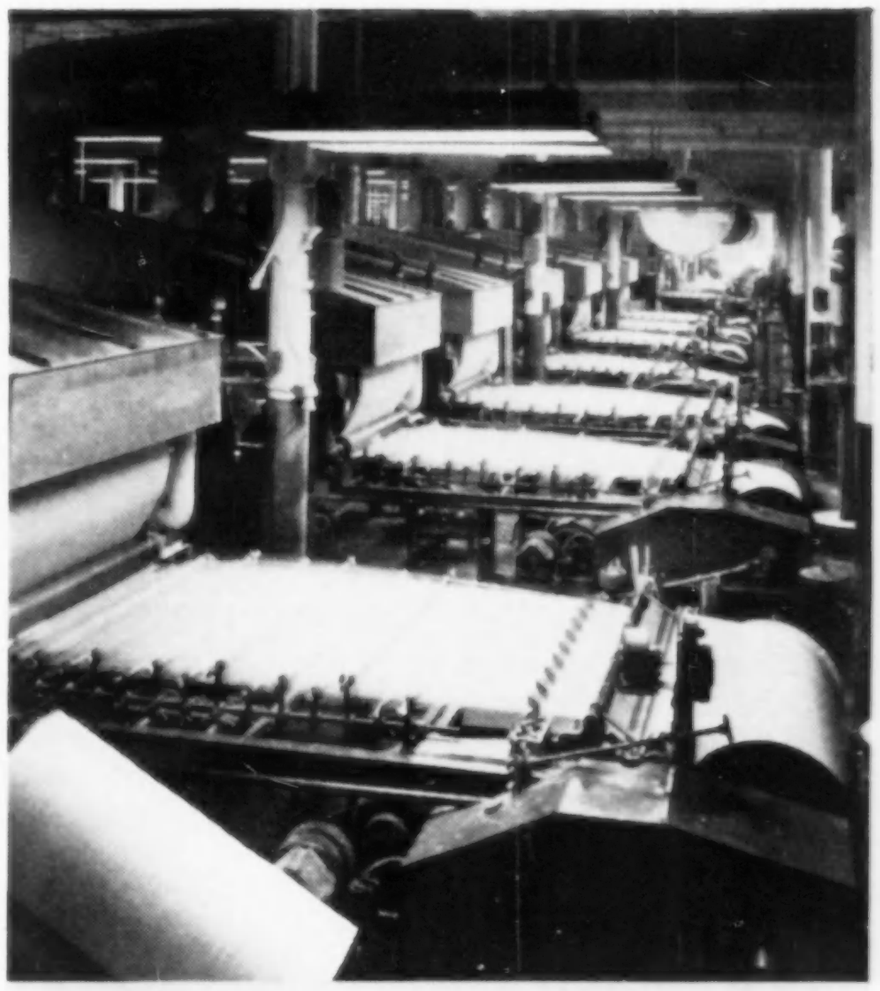


EUREKA, CHESTER, S. C. Three West Point 9-cylinder slashers here bring the total to 28 MULTI-CYLINDER slashers.

now operates Slashers

. . . with installation of three new West Point Multi-Cylinder Slashers in Eureka Plant, Chester, S. C.





Spring Cotton Mills Lancaster Plant: *14* West Point MULTI-CYLINDER slashers handle over a million yards of yarn each week for over 9,000 looms in the world's largest cotton mill.

You have a choice with West Point Foundry, because West Point makes *both* MULTI-CYLINDER and AIR-DRI Slashers.

to cotton. Multiple cylinders permit graduated temperature controls when required for synthetic warps. Multi-motor drives, superior tension control throughout, and steam economy are just a few of the many reasons why West Point Slashers are money-makers for you. Contact West Point today.

WEST POINT Foundry & Machine Company

WEST POINT, GEORGIA

For more data, write this page number on Reader-Service card. →

AUTOMATIC CLEANING where overhead track brings full air sweep of loom cleaner to every loom on the floor, without disrupting loom operation, keeping looms free of accumulated waste.

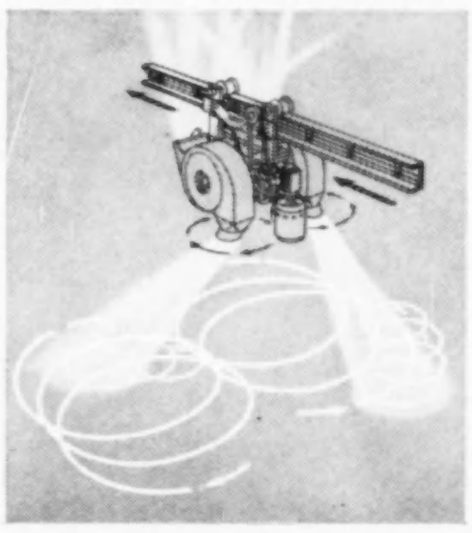
Keep Looms Continuously Clean . . . with No Downtime!

AMCO HELICLONE® LOOM CLEANER Pat. Pend.

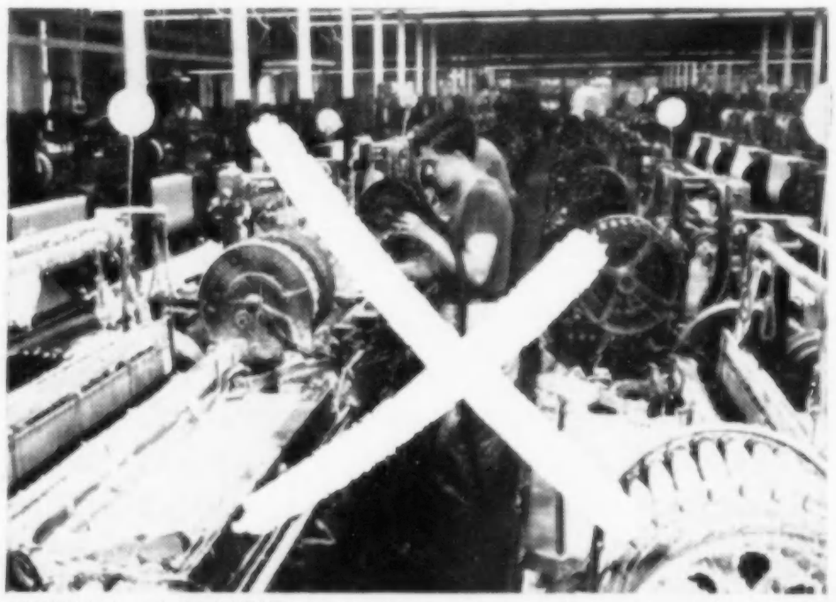
In mills where Amco Heliclone Loom Cleaners have been installed, new high-quality production standards are being established.

The swiftly whirling outlet nozzles, driven by powerful air streams, direct high velocity jets of air in overlapping, circular paths resulting in a rapid series of sharp puffs over loom and warp surfaces. At the same time, supplementary air outlets clean overhead track and ceiling. Automatic cleaning with Heliclones largely eliminates end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste.

Amco Heliclone Loom Cleaners may be used for the automatic cleaning of practically *all* makes and types of looms. A unit similar to the Heliclone is also available for winder cleaning. Write for further facts.



- Keeps looms and ceiling free of accumulated waste
- Cuts loom cleaning and costly downtime
- Improves production and quality of fabric
- Reduces fire hazard
- Improves weave room appearance
- Can be used with beam handling equipment



MANUAL CLEANING of waste accumulation, used by most mills, is very costly in terms of labor and downtime. It is a constant source of accidents and cloth imperfections.

AMCO

AMERICAN MOISTENING COMPANY
since 1888
Makers of Air Conditioning Systems and Textile Mill Equipment
Home Office and Plant: Cleveland, N.C. Branches in Atlanta, Providence, Toronto

Sales blossom in brilliant prints with National® Dyes

Color in bright, splashy prints is one of fashion's best salesmakers!

But whether prints, yarn-dyed fancies or glowing solid tones are in vogue, National Aniline should be your first call for help in reproducing wanted shades.

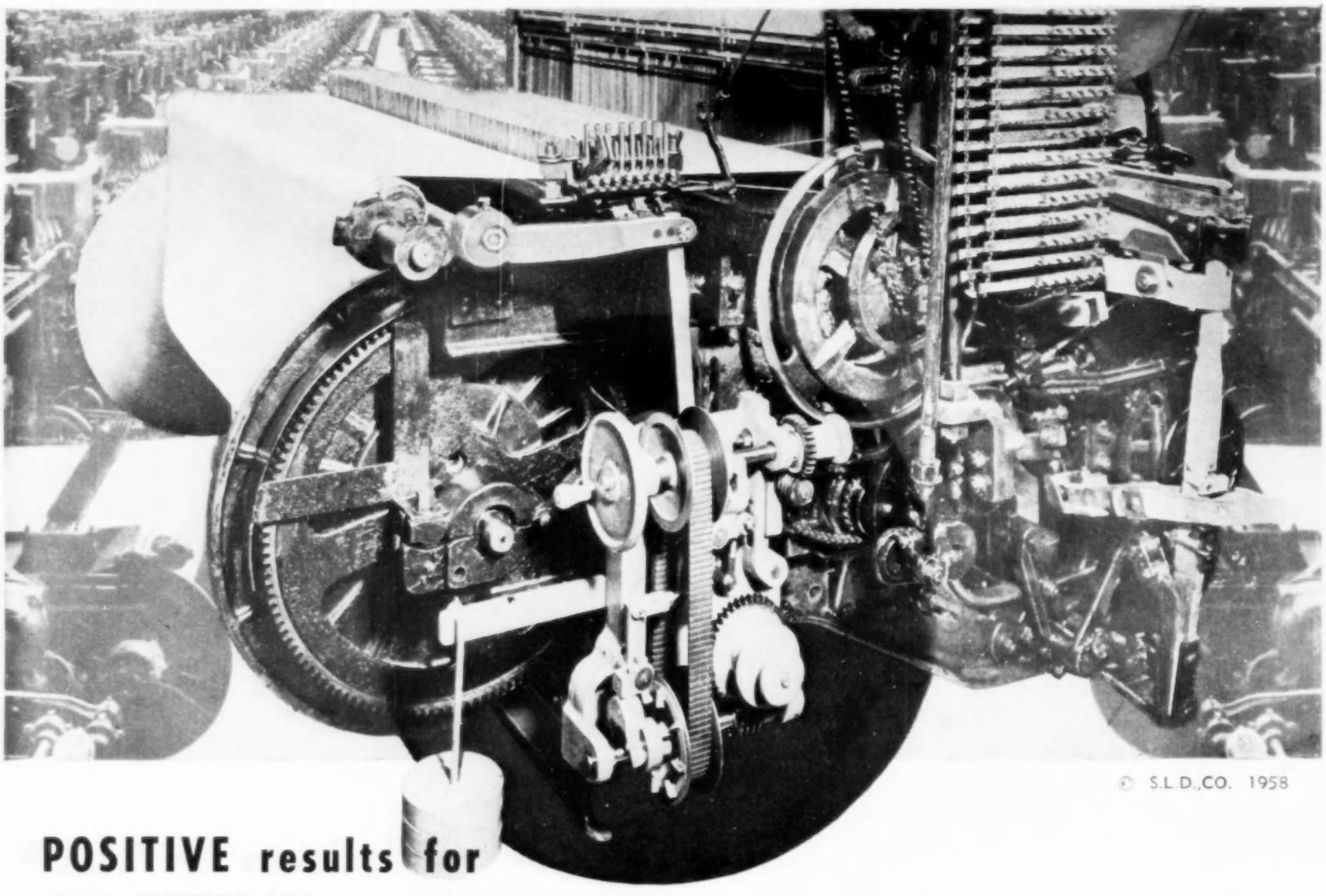
Ten Application Service Laboratories and experienced representatives are nearby, ready to lend expert technical assistance when needed. With constantly improved dyes and processing techniques developed by our Research and Engineering Center, they can help you sell more with color.

Allied Chemical

NATIONAL ANILINE DIVISION ALLIED CHEMICAL CORPORATION • 40 RECTOR STREET, NEW YORK 6, N. Y.

Akron Atlanta Boston Charlotte Chattanooga Chicago Greensboro Los Angeles New Orleans Philadelphia Portland, Ore. Providence San Francisco Toronto

Production Increased on over 700 looms!



© S.L.D.,CO. 1958

POSITIVE results for POSITIVE profits with

POSITIVE HUNT LET-OFF

With these superior features:

Tried and proven principal.

Simple to install.

Available for all makes of looms.

No messy oil pots.

Drag rolls very seldom needed.

Covers widest range of picks.

Driven from cam shaft.

Positive and automatic.

Here's what one mill* says . . .

1. "Wavy cloth disappeared."
2. "Warp stops decreased materially."
3. "Production increased on all looms."
   "Gained 6682 loom hours."
4. "Decreased weave room and cloth room labor costs."
5. "Able to inspect 25% more cloth per hour."
6. "Loom parts replacement cost decreased $7 per loom per year."

"Based on experience to date WILL PAY FOR INVESTMENT IN LESS THAN TWO YEARS!"

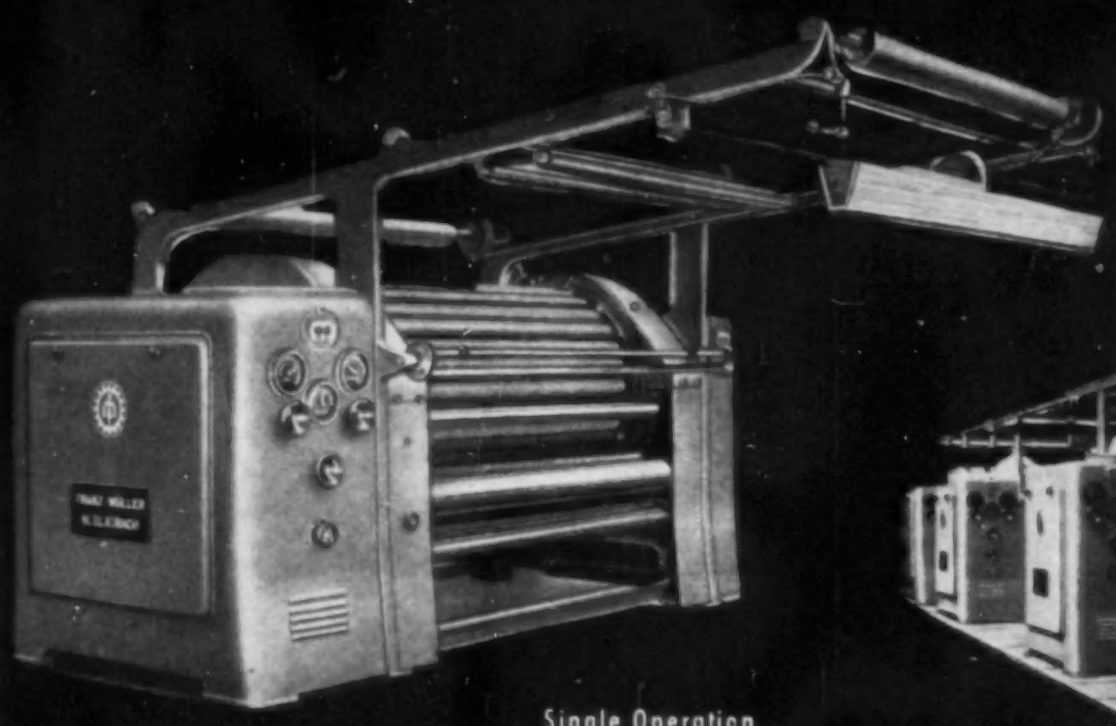
*Name and full particulars furnished on request.

Manufactured by:

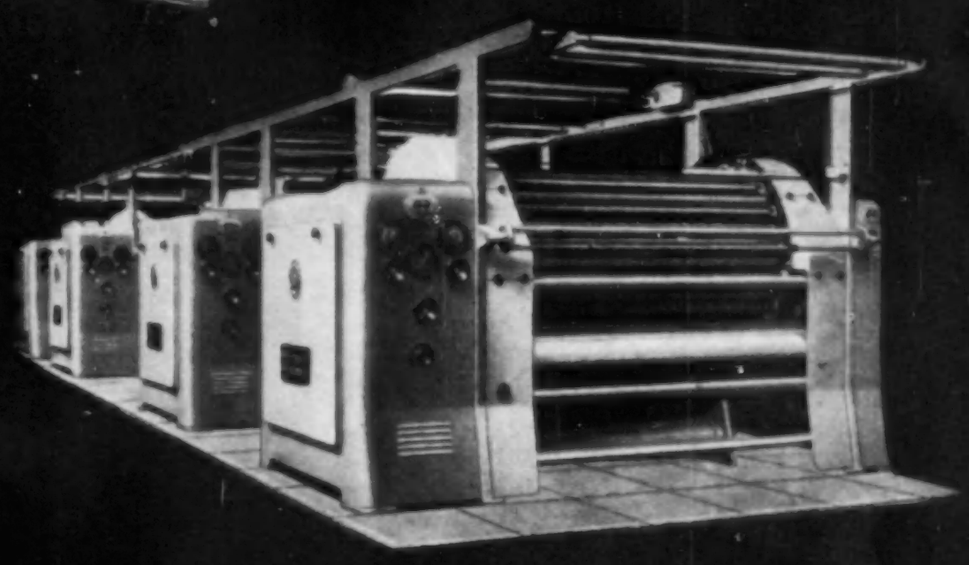
Southern Loom Development Company

P. O. BOX 3127—STATION A GREENVILLE, S. C.

WHY ? MAYBE ARE SUFFICIENT



Single Operation



Tandem Operation

THE RESULT OF 100 YEARS EXPERIENCE

30 of these high speed nappers
replaced 80 standard nappers
in a North Carolina mill

for reasons of:

- New Processing Methods
- Unequalled Finish
- Highest Production
- Labor Savings

Our agents and service engineers are in the field. Contact them, they'll give you advice.

SOUTHERN U.S.:
PARROTT & BALLENTINE,
610 S. CAROLINA
NATIONAL BANK BUILDING
GREENVILLE, S.C.

NORTHERN U.S.:
TEXTILE MACHINERY
IMPORT CO.
277 NORTH AVENUE
NEW ROCHELLE, N.Y.

COMBINE OF TEXTILE MACHINERY MANUFACTURERS
COMBITEX

FRANZ MÜLLER · MASCHINENFABRIK · M.GLADBACH (WESTERN GERMANY)

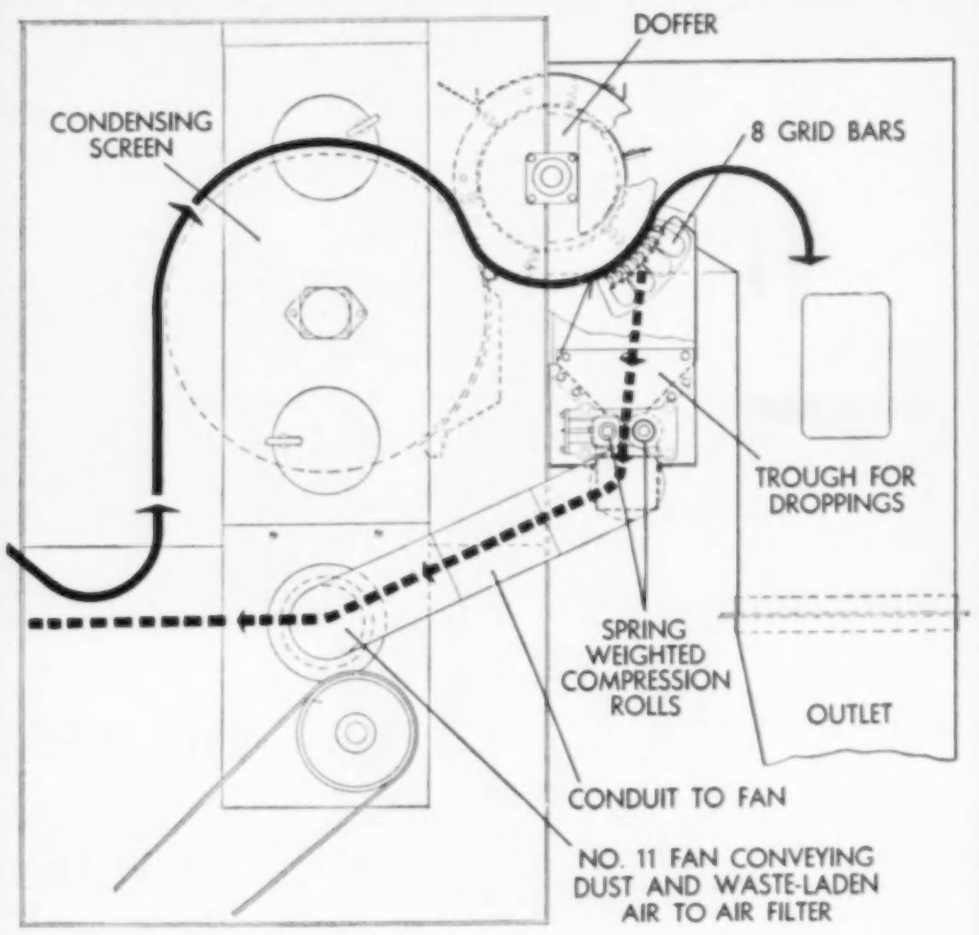
For more data, write this page number on Reader-Service card. →

Poor cotton giving you trouble?
Dust and fly a problem?

NEW SACO-LOWELL *Automatic* CLEANING UNIT

FOR ALL NO. 11 DUST & WASTE EXTRACTORS

- ★ Offers 30% (approx.) increase in cleaning efficiency of No. 11 Dust and Waste Extractors.
- ★ No extra beating of the stock — no increase in fibre breakage or neps



This view shows the passage of stock and droppings through the No. 11 Desk and Waste Extractor. All droppings are automatically carried away. Stock movement is indicated by solid lines; droppings by broken line.

Here is one of the low cost answers to help in proper cleaning of the poor 1957 cotton crop. This new Cleaning Unit is completely automatic, waste never has to be removed manually, does not require extra labor to operate. Mill tests show that the quantity of trash removed by this NEW CLEANING UNIT is equal approximately to 1/3rd of the amount of waste removed by any efficient unit in the opening line. Waste taken out includes motes, stem, leaf, boll and seed fragments. Is installed easily and inexpensively, assures cleaner stock that results in higher quality yarn.

Contact your nearest Saco-Lowell Sales Office for complete information.

SACO–LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. Sales Offices: CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

◀— For more data, write this page number on Reader-Service card.

FINEST *Quality*

Flat Steel Heddles Since 1897 from

Stehedco

Preferred by ninety-nine out of a hundred mills for longer, trouble-free production.

Ever since flat steel heddles were first introduced to America by Steel Heddle Mfg. Co., the highest standards of quality have been maintained. You can depend on STEHEDCO.

Stehedco has always been first to introduce the newest improvements, and there are Stehedco flat steel heddles of every type for every kind of weaving. They are expertly made of finest quality steel, highly polished to handle your most delicate yarns or heaviest fabric.

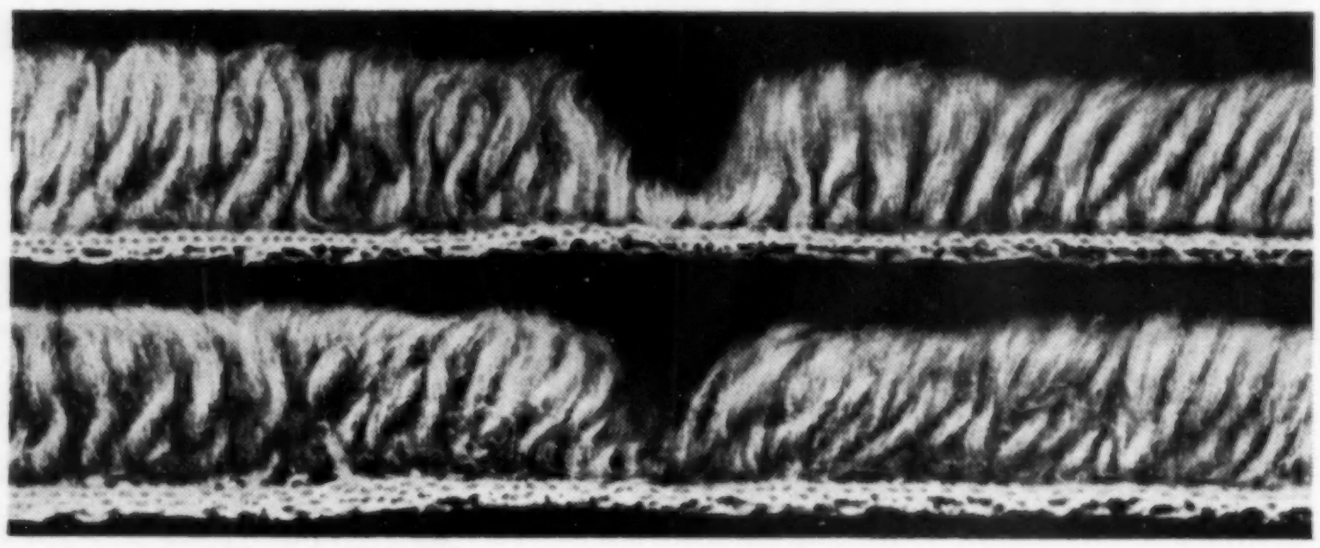
Make your next order for Stehedco Quality heddles.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

H-5810

Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N.C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.

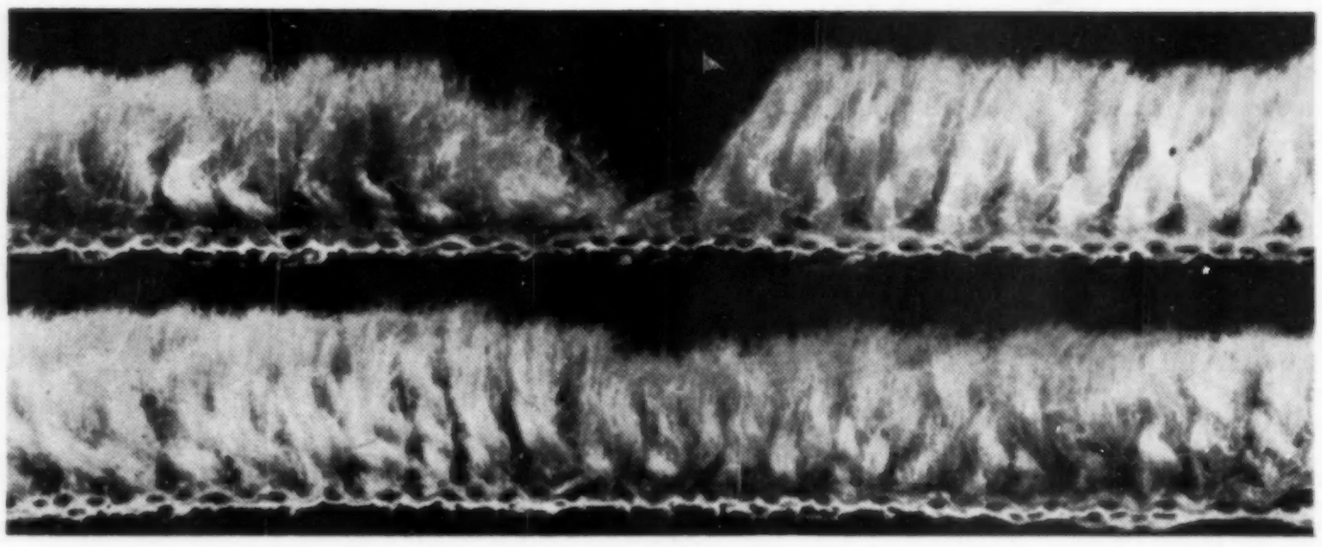
You can add years of wear



100% WOOL
at the **31,500** Pedestrian
Traffic mark.

80% WOOL/20% IRC NYLON
at the **98,000** Pedestrian
Traffic mark!

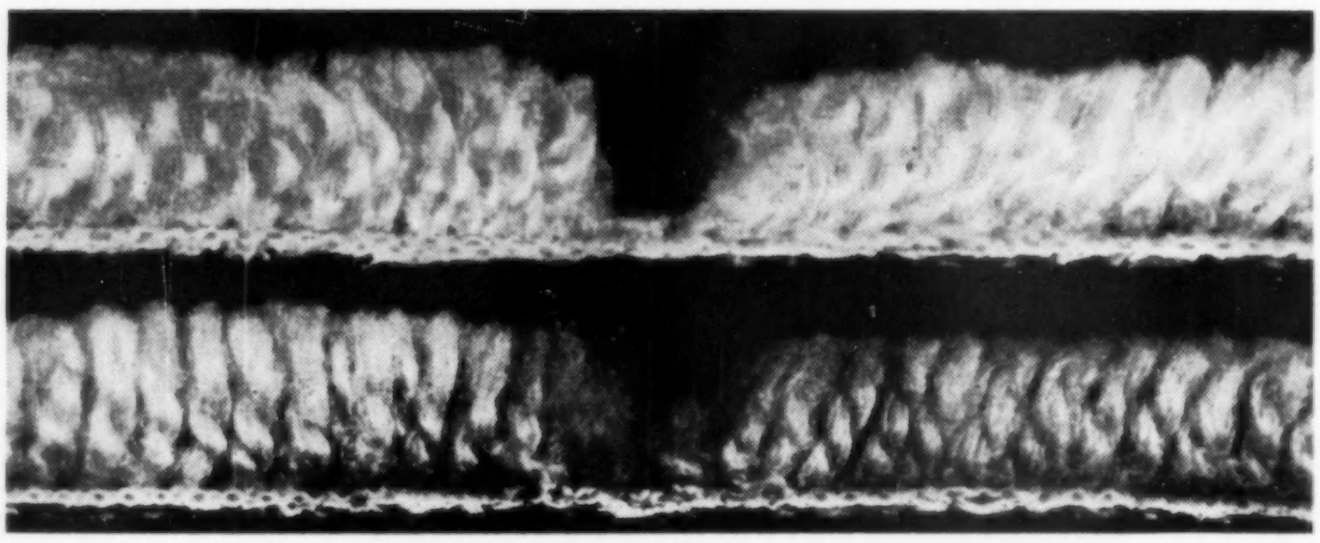
when 20% NYLON is added to wool



100% ACRYLIC FIBER
at the **72,000** Pedestrian
Traffic mark.

70% ACRYLIC FIBER/30% IRC NYLON
at the **72,000**
Pedestrian Traffic mark!

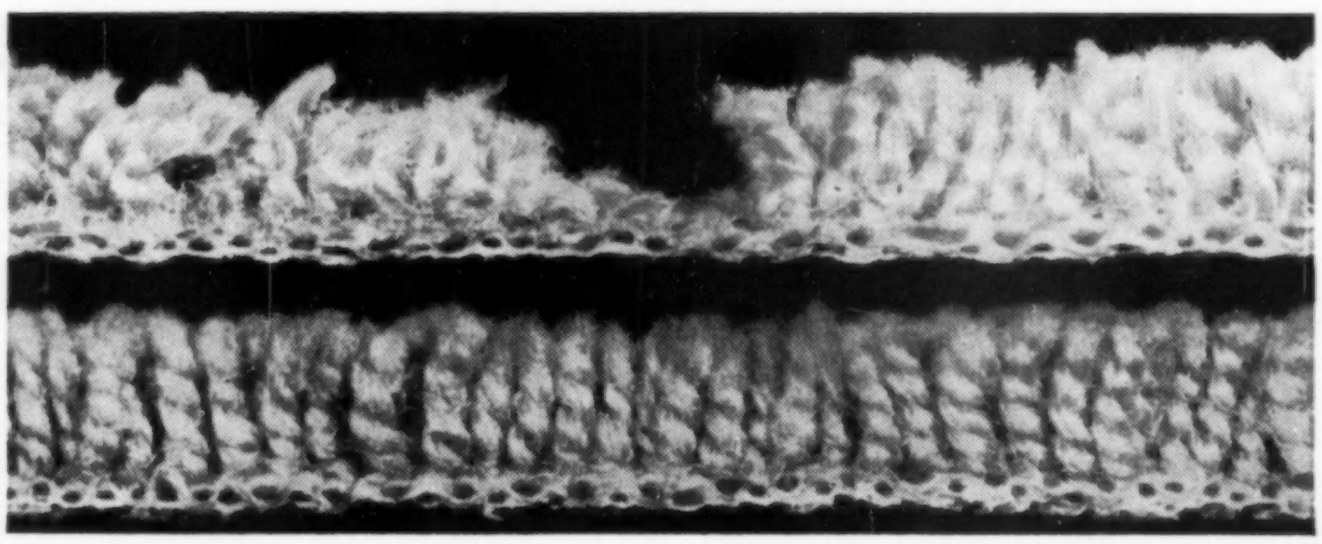
when 30% NYLON is added to acrylic fiber



100% RAYON
at the **8,000** Pedestrian
Traffic mark.

70% RAYON/30% IRC NYLON
at the **98,000** Pedestrian
Traffic mark!

when 30% NYLON is added to rayon



100% ACETATE STAPLE
at the **51,000** Pedestrian
Traffic mark.

80% ACETATE/20% IRC NYLON
at the **65,000** Pedestrian
Traffic mark!

when 20% NYLON is added to acetate staple

← For more data, write this page number on Reader-Service card.

to carpet made of any fiber

by blending it with

I·R·C NYLON

"How does it wear?" That's the question consumers are asking today when they buy carpeting. And here's visual proof that when you add nylon, you add long wear. Name your carpet fiber: wool, rayon, acetate, acrylic...you can improve them *all* by adding nylon. In blends, nylon adds miles of wear, years of life to carpeting made of every other fiber.

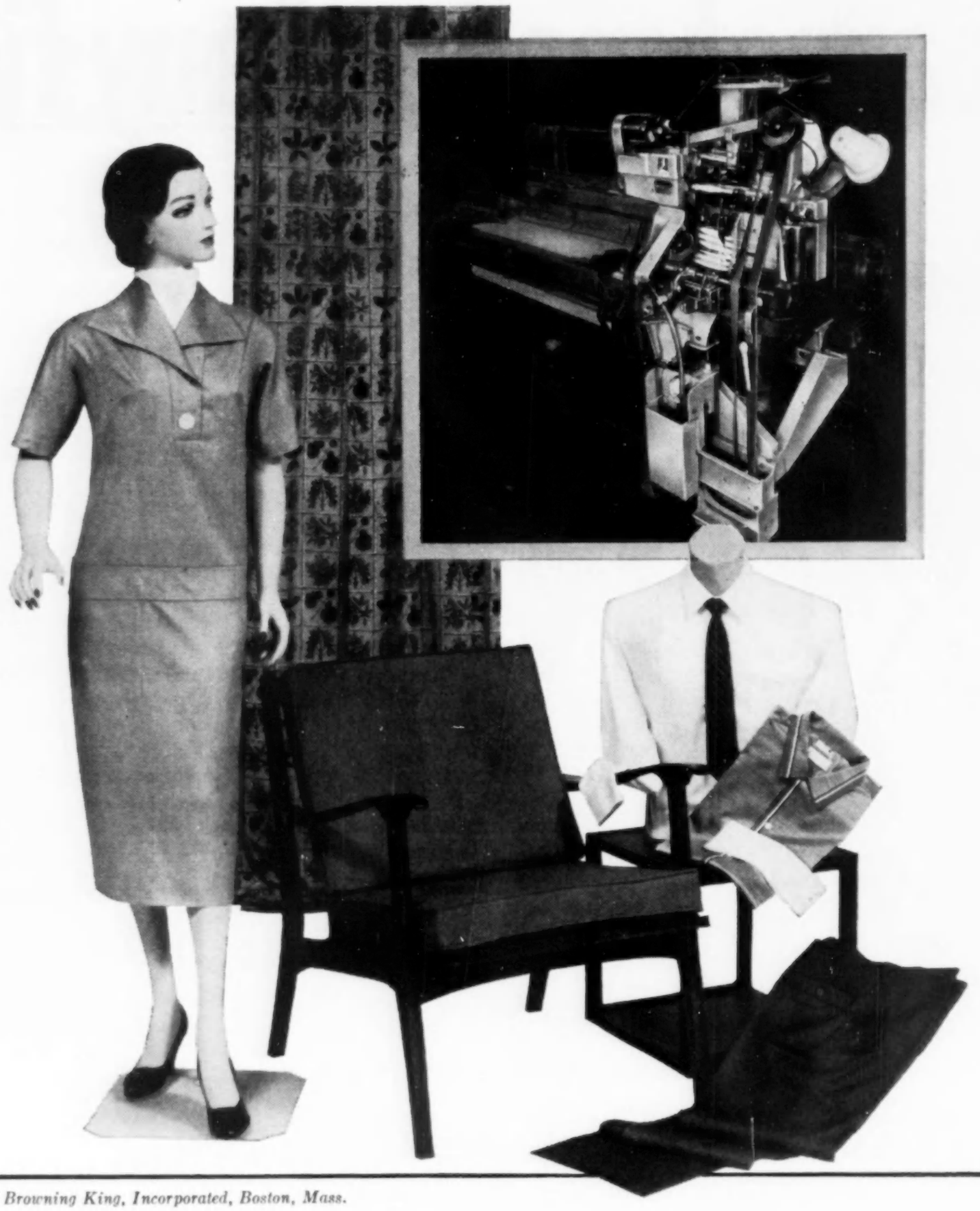
Nylon adds permanent texture and crush resistance, too. Nylon also adds *vitality* to colors—a sparkle and clarity that last the entire life of the carpet. Nylon is the fiber that adds all-around performance to carpeting.

THE NYLON FIBER DIVISION, INDUSTRIAL RAYON CORPORATION
500 Fifth Avenue, New York 36, N.Y. • 627 Guilford Building, Greensboro, North Carolina

THE NEW Nylon Staple I·R·C

Do not compare the four tests pictured here against each other. Compare only the 100% construction against the blend of the same fiber. Within each test, the 100% construction is identical to the blend in every respect but fiber content. These unpadded pieces of carpeting were laid on bare, rough steps for the toughest practical test.

For more data, write this page number on Reader-Service card. →



Garments courtesy of Browning King, Incorporated, Boston, Mass.

You'll weave these better and at lower cost with UNIFIL®

Many mills are proving it every day.* Cotton, spun and filament synthetics, textured and novelty yarns—all weave better with Unifil.

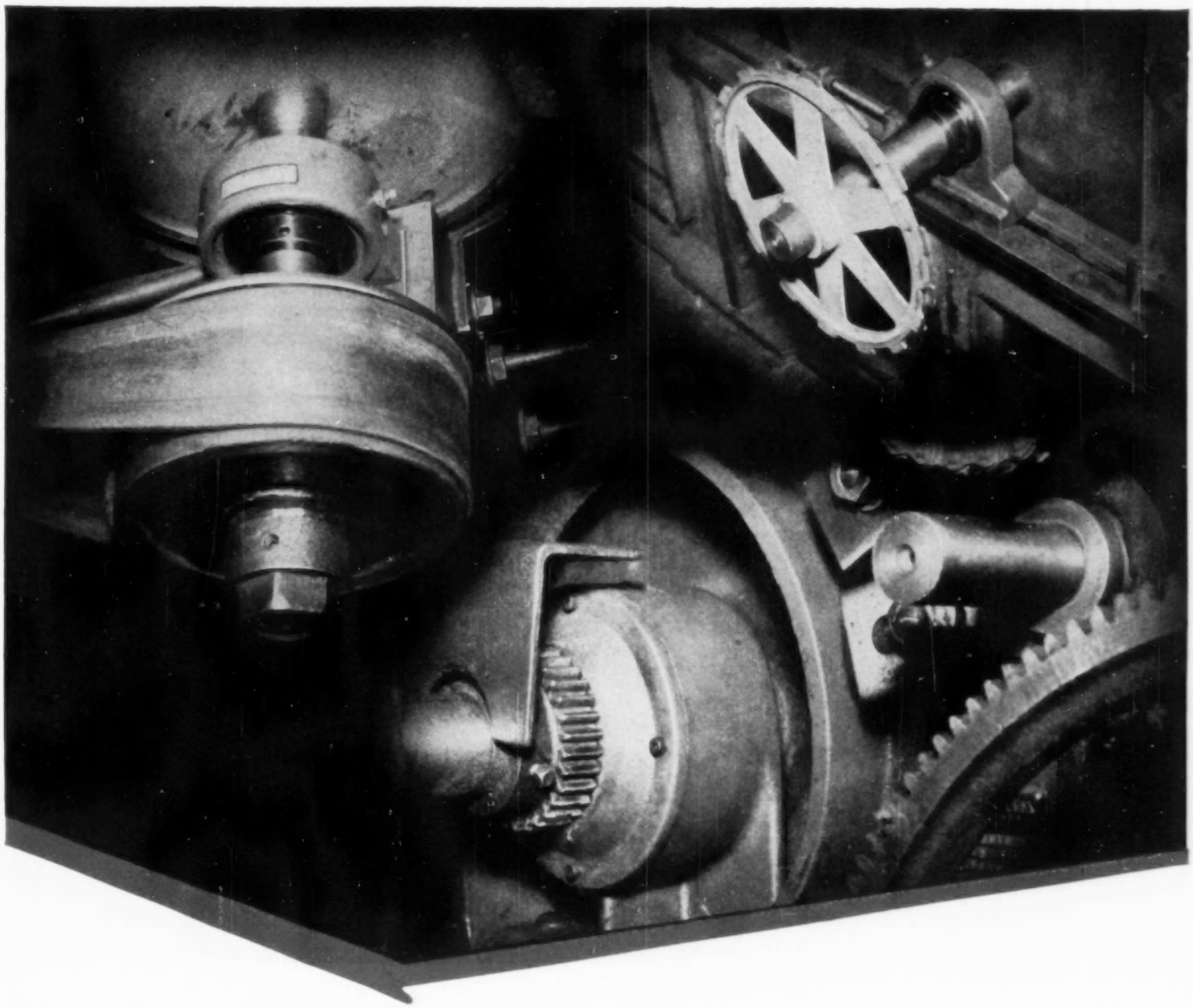
Unifil is a unique system of filling preparation — you get all the advantages of "weaving from a cone!" A Unifil-equipped loom winds, weaves and strips its own quills — *all automatically in a continuous cycle!* The result — clean, uniform quills — untouched by human hands — are wound from the same supply package.

And Unifil is versatile. You can make rapid fabric change-overs. You're always ready to meet product demand — *fast!* Contact your Universal Sales Engineer — he'll give you the full story of this quality-improving, cost-saving machine.

* Amerotron, Burlington Industries, Cannon Mills, Cone Mills, Dover Mill Group, Ponemah Mills, Riegel Textile, Starr Mills, J. P. Stevens, United Merchants and Manufacturers, Woodside Mills. (This is only a partial list.)

23.7.38

LEESONA® UNIVERSAL WINDING COMPANY



Dixie Bearings, Inc. converts woolen cards to anti-friction bearings...cuts maintenance and lubrication costs . . . increases production!

Chatham Manufacturing Co., Elkin, North Carolina, has realized considerable savings by converting sleeve bearings on woolen cards to anti-friction bearings. DIXIE bearing engineers recommended the bearings best suited for this type of conversion, designed and had produced the fixtures that hold the bearings.

The result is a clean, economical conversion that was quickly installed and is now operating with much less power consumption. Maintenance and lubricating costs are reduced. Production, with better quality, is up!

Ask a DIXIE BEARINGS, INC. engineer to survey your bearing requirements on all mill equipment at no cost or obligation to you. Conversions are a specialty with DIXIE and ample facilities to handle the largest equipment is available.

Call the DIXIE branch nearest you NOW!

Providing bearing service in the South ➤ **DIXIE BEARINGS, INC.**

FLORIDA: Jacksonville • **GEORGIA:** Atlanta • **KENTUCKY:** Louisville • **LOUISIANA:** Baton Rouge • New Orleans
N. CAROLINA: Charlotte • Greensboro • **S. CAROLINA:** Greenville • **TENNESSEE:** Chattanooga • Kingsport • Knoxville • Nashville

and in the North ➤ **BEARINGS, INC.**

OHIO: Akron • Canton • Cincinnati • Cleveland • Columbus • Dayton • Elyria • Hamilton • Lima • Lockland • Mansfield • Toledo • Youngstown • Zanesville
INDIANA: Ft. Wayne • Indianapolis • Muncie • Terre Haute • **PENNSYLVANIA:** Erie • Johnstown • Philadelphia • Pittsburgh • York
WEST VIRGINIA: Charleston • Huntington • Parkersburg • Wheeling • **NEW JERSEY:** Camden
NEW YORK: Buffalo, Balanrol Corp. • **MARYLAND:** Baltimore • **DELAWARE:** Wilmington

For more data, write this page number on Reader-Service card. ➤

Know your AIM*...Indian Head Mills, Inc. does...

Steel Strapping Machine closes textile boxes

Acme Idea Man* J. B. Quarles cooperated with Indian Head Mills, Inc. on this modern installation.

INDIAN HEAD MILLS, INC., Cheraw, South Carolina, uses an Acme Steel Model F1 Semi-Automatic Strapping Machine to close and reinforce boxes of their well-known, quality, "Indian Head" brand textiles. Now, only one man is required for the strapping operation . . . a saving of 8 to 12 man hours per day. (Idea No. S5-5)

Served by a conveyor system, the F1 applies as many steel straps as desired in a matter of seconds with uniform, pre-determined tension. Electrically powered, the machine is controlled by push-buttons. Strap is cut automatically, and ends are instantly and permanently joined by spot welds. The machine handles containers of various sizes in any sequence without adjustment. A special track feeds the strap to within easy operator reach.

***Know your Acme Idea Man.** He is sure to provide clues to better ways of protecting and shipping your products. Call him today at a nearby Acme Steel office. Or write Dept. TAS-78, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**

← For more data, write this page number on Reader-Service card.

New word in processing: Zefran®

zef-ran

(Zĕf-răn), n.1.

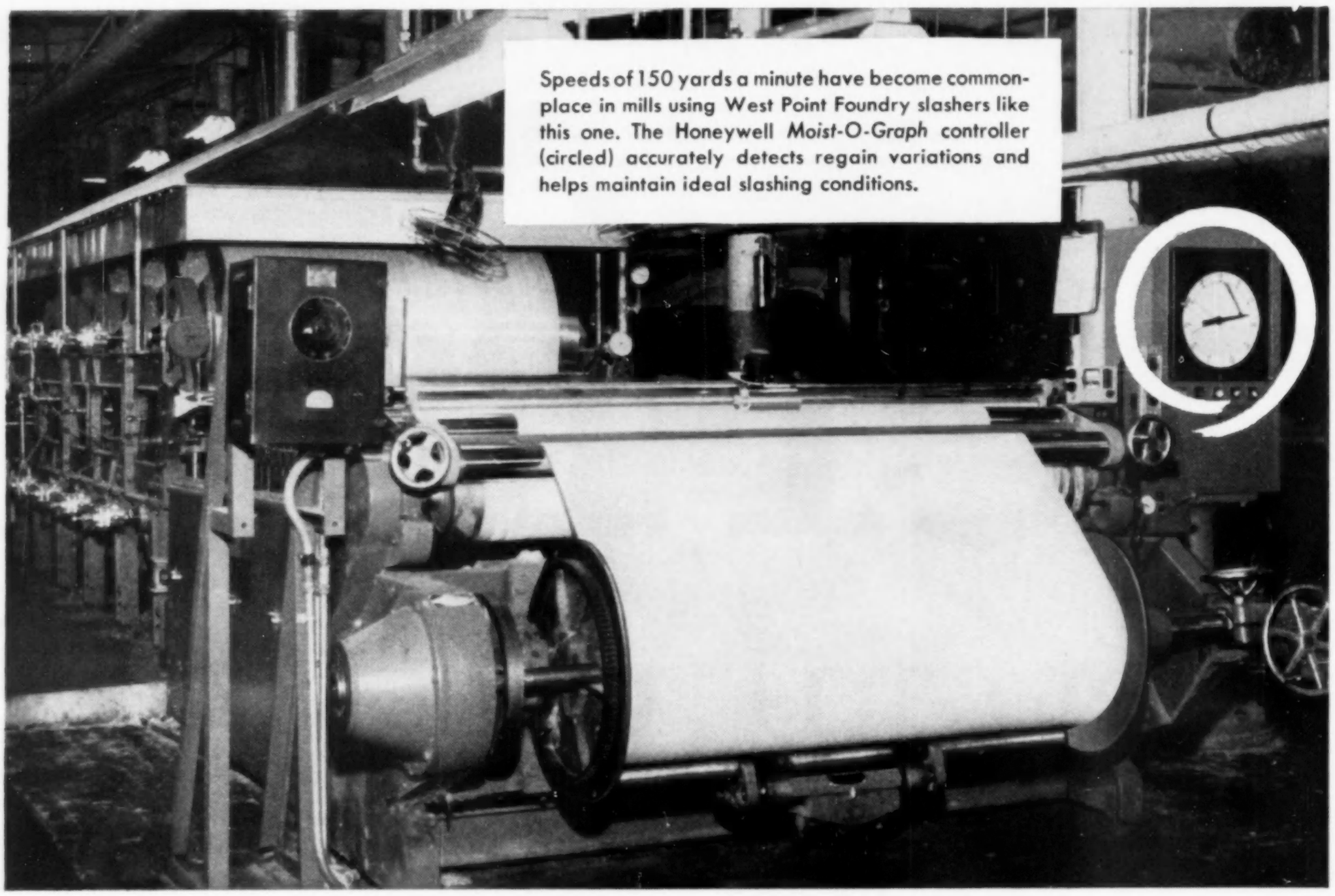
Entirely new acrylic alloy fiber made exclusively by The Dow Chemical Company. 2. Processes like a natural fiber: i.e. can be efficiently handled on all standard equipment used for staple yarn manufacture—alone and in blends with other fibers. 3. Continuous dyeing and printing possible on conventional equipment. 4. No costly adjustments or special equipment needed. 5. Adapts itself remarkably to normal wet processing conditions. This adds up to exceptional manufacturing versatility. 6. Available in 2, 3 and 6 denier staple.

Fabrics now being created by selected mills (for apparel only). For further information write The Dow Chemical Company, Textile Fibers Department, Williamsburg, Va.

You can depend on DOW

Zefran®

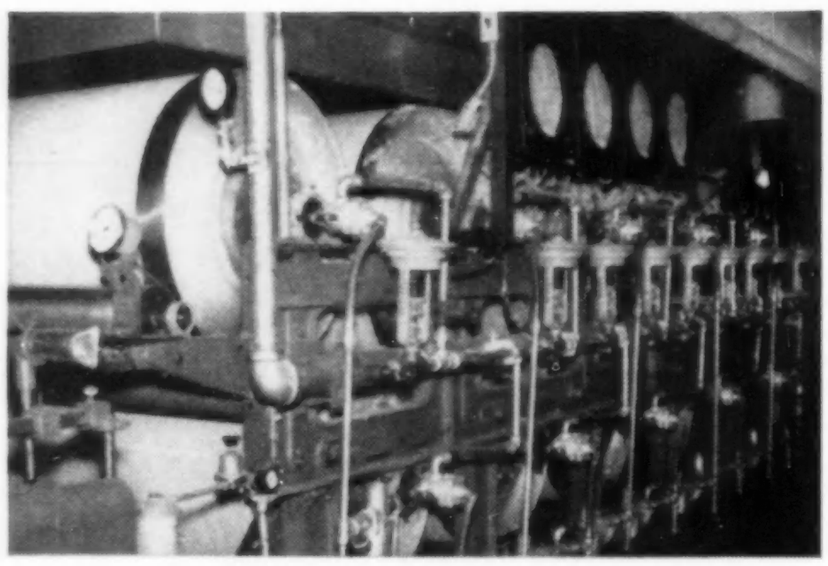
For more data, write this page number on Reader-Service card. →



Speeds of 150 yards a minute have become commonplace in mills using West Point Foundry slashers like this one. The Honeywell *Moist-O-Graph* controller (circled) accurately detects regain variations and helps maintain ideal slashing conditions.

Slash More Warp

. . . with West Point Foundry multi-cylinder slashers equipped with Honeywell moisture and temperature controls



Honeywell instruments and diaphragm control valves provide accurate temperature control with steam economy. These temperature controllers and valves supply just the right amount of steam to the drying cylinders.

Close control of moisture and temperature by Honeywell instrumentation assures dependable, high-speed performance of West Point Foundry and Machine Co. slashers. Users find significant increases in slasher production rates and weave room efficiency, while cutting costs.

Honeywell temperature controllers regulate the flow of steam into the drying cylinders with the extreme accuracy required for properly graduated heating. A Honeywell *Moist-O-Graph* keeps beam moisture constant for best possible weaveability.

This combination of control and slasher design has caused drying rates to exceed 1600 pounds per hour for nine-cylinder West Point slashers and more than 2300 pounds an hour for eleven-cylinder models. Steam economy is an important added advantage.

For details on how you can best apply slasher instrumentation to advantage in your own mill, call your nearby Honeywell field engineer. He's as near as your phone.

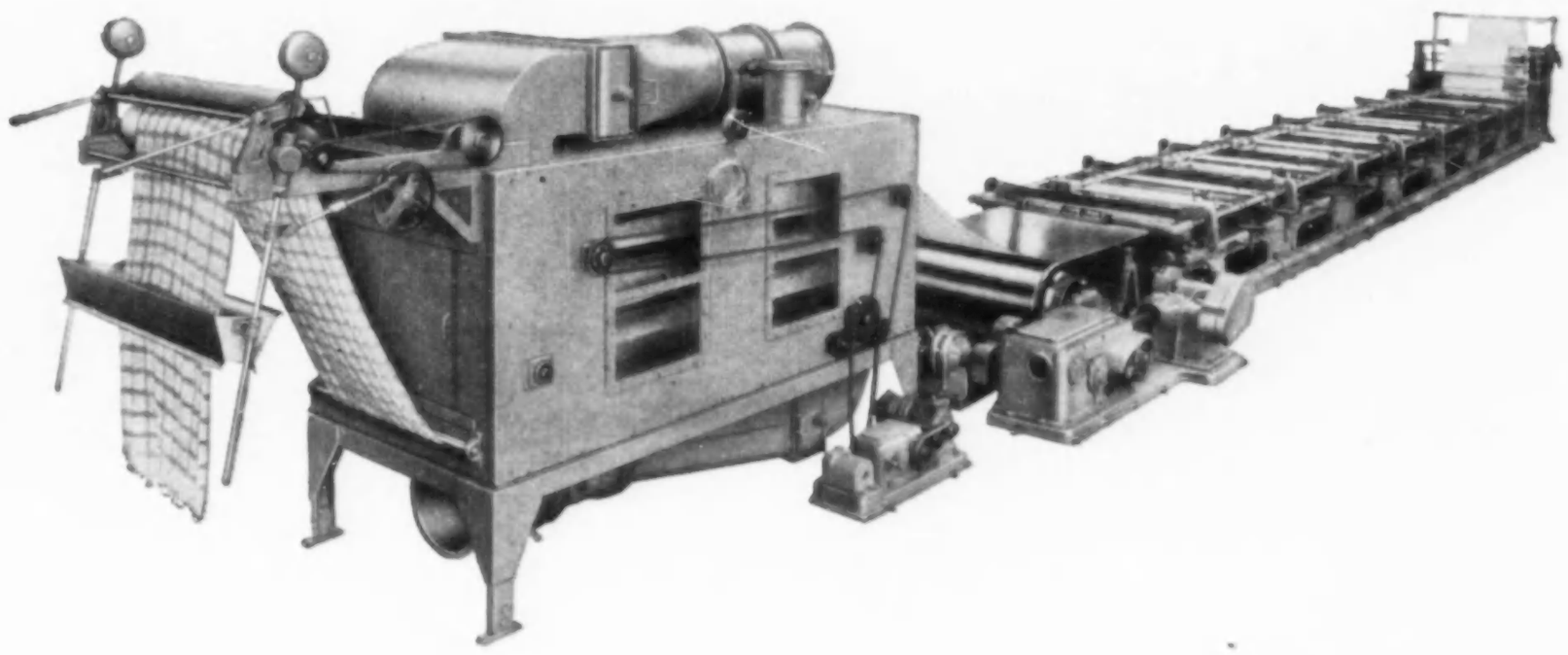
MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.

Honeywell

H HONEYWELL *First in Controls*

ICHINOSE'S PATENTED MULTI-COLOUR AUTOMATIC SCREEN PRINTING MACHINE

This machine is incorporated with more than 60 patented devices, and is the best machine for screen printing.



Outstanding merits:

Colours .....up to 14 colours

Production .....12 yds. per minute for 36" pitch

Better printing.....suitable for all sorts of fabrics
(fine, medium, heavy)

Less workers.....only two per machine

Less maintenance expenses, Less consumption of power & steam, Less floor space

For further details, quotation, catalogues, sample printed fabrics etc., please contact direct to us.

Ichinose **TOSHIN KOGYO CO., LTD.**

5, Shinden-Umaochi, Moribe, Amagasaki, Japan

P. O. Box Osaka Central 367

Cable Address: AUTOSCREEN AMAGASAKI

For more data, write this page number on Reader-Service card. →

THE STEEL SCAFFOLDING COMPANY, INC.
856 HUNDOLDT STREET
BROOKLYN 22, N. Y.
EVergreen 3-5510

MANUFACTURERS OF Trouble Savers SINCE 1912

January 9, 1957

Mr. C. H. Lausberg
Area Development Department
West Penn Power Company
Cabin Hill
Greensburg, Pennsylvania

Dear Clem:

Needless to say, I am more than pleased that the final decision reached was on locating our new plant in Western Pennsylvania. In no small measure, a good deal of the credit rests with you and your associates and your untiring efforts. Your clear presentation of facts simplified our problem of sorting out the myriad of claims that so many communities set forth. It was gratifying to note that the Greater Uniontown Industrial Fund was well aware of the role you played and so acknowledged by the "plug" in the local paper announcements.

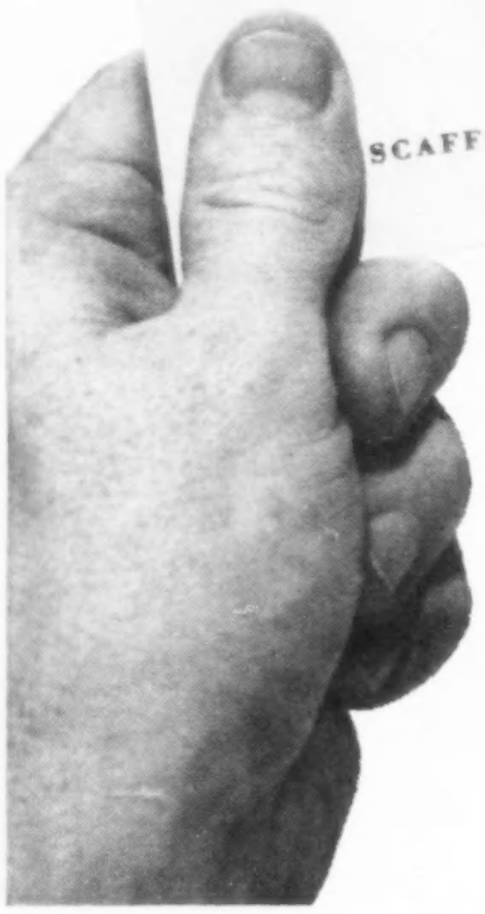
Many thanks for the Directory of Products and Manufacturers. It will be very helpful for future reference.

Sincerely,

Bert

N. A. Engelen, Secretary

SCAFFOLDING FOR EVERY PURPOSE



WEST PENN POWER

an operating unit of the
WEST PENN ELECTRIC SYSTEM

Hello . . .

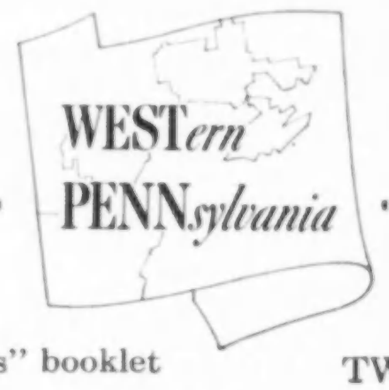
I'm Charlie Fife . . .

This letter is very complimentary. But we won't accept all that credit.

Our part is quite simple. All we do is determine your requirements. Once we've done that, the only skill is to make sure that opportunities in our area apply to *you*. You see, we live here . . . know in detail the *favorable tax climate* that encourages industry. We know the localities that offer *100% financing* plans at low interest. We know where *labor* and *skills* are available.

We take credit for just this: We like to add two plus two and get four—no fractions. If you'd like us to work on your side of the equation, let us know. We've got a pretty good record of fours. Won't you let us prove it . . . in confidence, of course.

CHARLIE M. FIFE, *Manager*
Area Development Department



Area Development Department,
West Penn Power Company,
Cabin Hill, Greensburg, Pennsylvania

☐ Please have representative call

☐ Please send "Plant Location Services" booklet

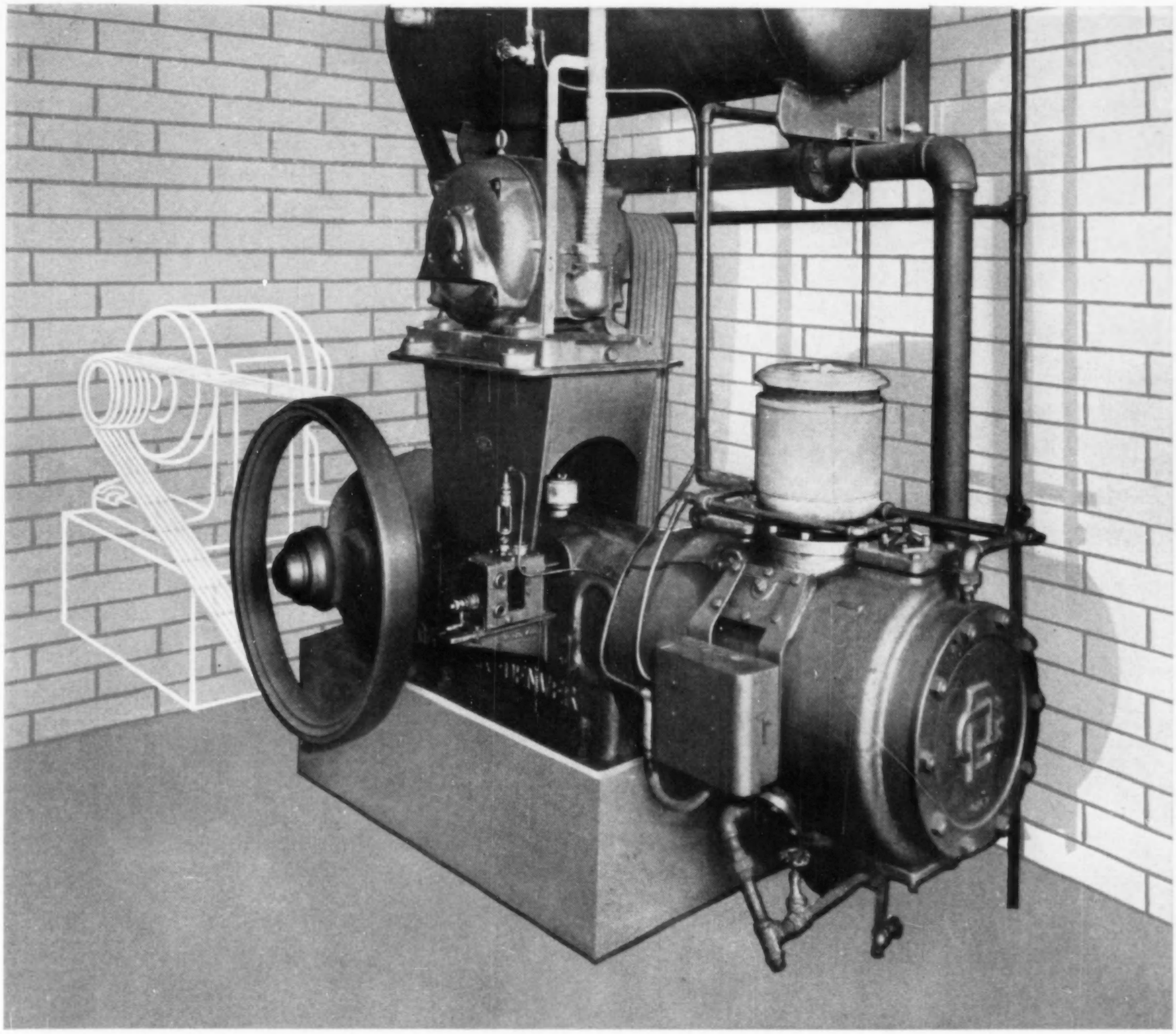
TW-5

Yes, I'm interested in WESTern PENNsylvania. ☐ Please send "Directory of Products & Manufacturers"

Name _____ Title _____

Company _____ Street _____

City _____ Zone _____ State _____



Piggy-back power unit saves up to 27.4% floor space

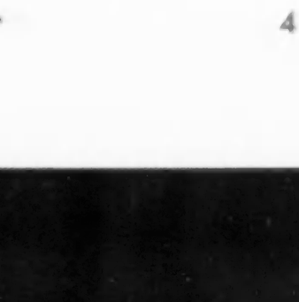
Up against it for air compressor floor space? Take advantage of your "*air rights*"! Specify the Gardner-Denver RX compressor with piggy-back motor mounting. This saves up to 27.4% floor area.

The RX delivers air at low cost and gives years of trouble-free service. Compressor parts have been engineered to keep on the go with minimum maintenance . . . run smoothly . . . conserve power.

Gardner-Denver RX models are available in capacities from 100 to 1410 cfm. piston displacement, for pressures from 15 to 150 psi. Write for Bulletin HAC-40.

G-D Clean-Air Aftercoolers

Protect air tools and materials with a Gardner-Denver aftercooler in your compressor installation. Cools air within 15° F. of cooling water; eliminates 90% of moisture and oil. Bulletin KA-6 gives complete details.



ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING

GARDNER - DENVER

Gardner-Denver Company, Quincy, Illinois

Branch Offices: Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y. Philadelphia, Pa.; Pittsburgh, Pa., New Orleans, La.; Louisville, Ky.

For more data, write this page number on Reader-Service card. →

Armstrong Accotex Cots can help you keep yarn quality high

Accotex Cots can help you get maximum production of top-quality yarn from your high-draft frames by minimizing such sources of trouble and expense as lapping, eyebrowing, and irregularities caused by poor yarn control.

The broad line of Armstrong Accotex Roll Covers includes materials that are specially compounded to combat these common spinning problems.

For example, many mills have found that they can reduce front roll laps to a minimum with Accotex J-490 Cots. This cot contains electrolytes that actually tend to repel broken ends and prevent them from lapping.

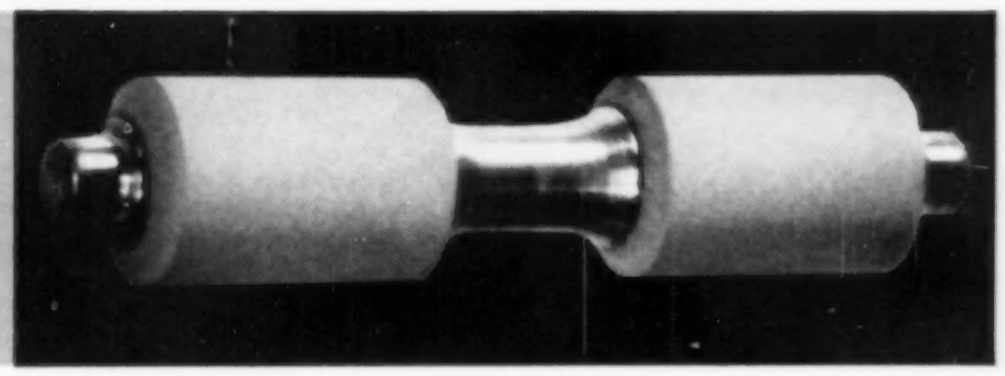
In mills where high static aggravates the lapping problem, one of the new anti-static Accotex materials is often the answer. These new cots are made especially to help control front roll lapping on equipment where non-metallic cap bars are used and where other metal-to-metal contacts have been eliminated.

Excessive eyebrowing in spinning room and card room has been eliminated in many mills by another Accotex anti-static material—NC-762. This new cot has an exclusive "constant-friction" surface that packs waste well back under the clearers. In addition, many mills report substantial reductions in the total amount of waste formed where the anti-static NC-762 cot is used.

With some types of equipment, it has been found that one of the softer Accotex Cot materials will improve break strength and reduce irregularities in the yarn.

Your Armstrong representative will be glad to work with you in the selection of the right roll covers for best performance on your equipment. Call him today or write Armstrong Cork Company, Industrial Division, 6507 Dauphin Street, Lancaster, Pennsylvania.

No matter what fiber or blend you're spinning, no matter what kind of equipment you have, there's an Accotex Cot that's specially designed to help you get top-quality spinning.



Armstrong ACCOTEX COTS

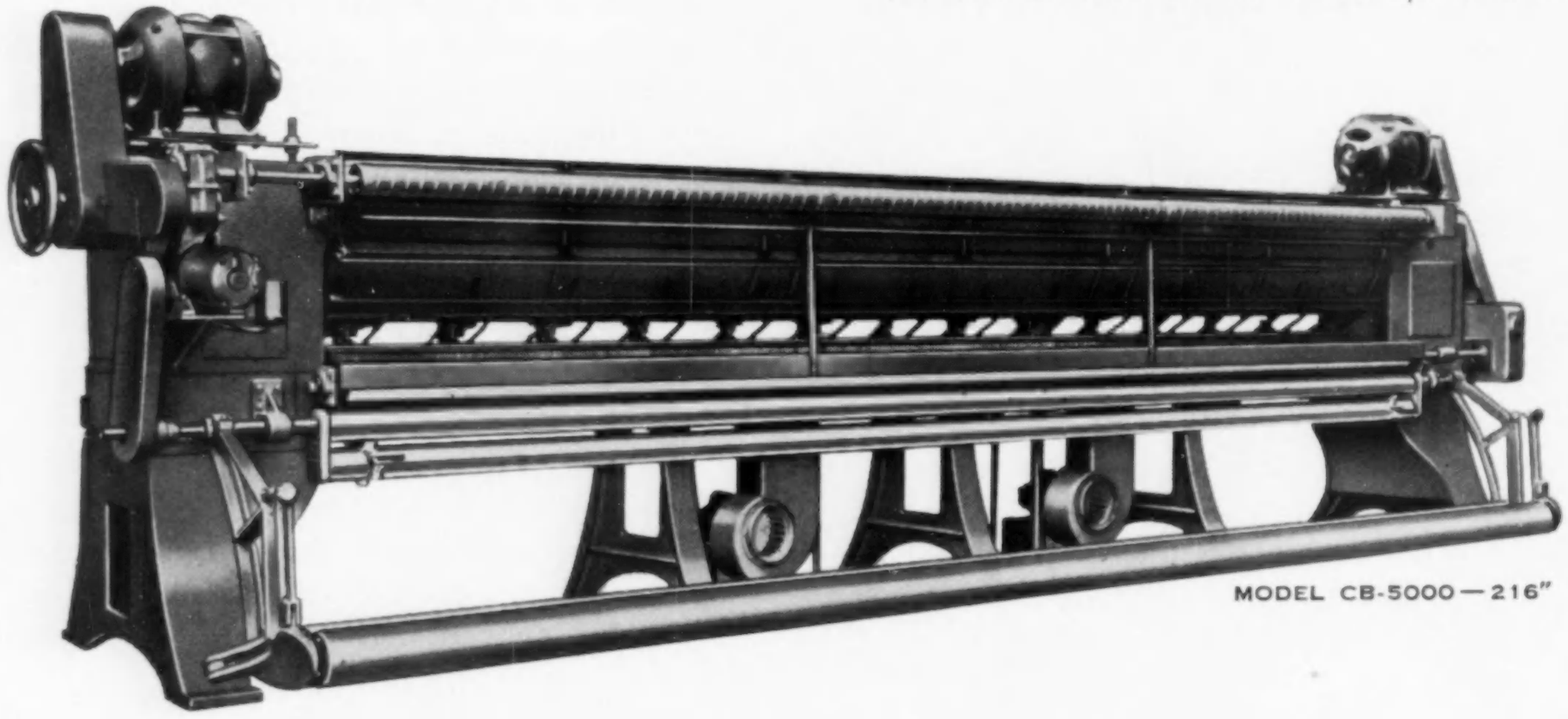
. . . used wherever performance counts

For more data, write this page number on Reader-Service card. →

Lightweight, High Tensile Aluminum Needle Bar. Hardened and Ground Needle Bar Push Rods.

Positive, Infinitely variable Yarn Feed for Close Control of Fabric Weight and Nap Height.

Heavy Duty Continuous Cloth Feed Drive or positive uniform stitch rate. Instant and infinite stitch adjustment for easy and accurate control of fabric weights and appearance. Latest development in Cloth Feed eliminates "stop marks" completely and controls cloth tension for best production.



MODEL CB-5000—216"

Largest Needle Eyes Compatible with Gauge.

550 stitches per minute. Full 216" Tufting width.

Readily accessible Hook and Knife Units with self-setting Hooks for Cut Pile.

Heavy Cast Head and Bedplate Castings. Over 16,000 pounds Gross Weight.

Write, wire or phone for information on the Cobble Brothers complete line of Tufting Machinery.

COBBLE BROS. MACHINERY CO.

RIVERSIDE DRIVE • PHONE OX 8-3481 • CHATTANOOGA, TENN., U.S.A.
GATE STREET WORKS • BLACKBURN, LANCASHIRE, ENGLAND

OVERSEAS AGENTS: ANDRE MANUEL, 82 Blvd. Haussmann, Paris 8, France - NOEL P. HUNT & CO., Pty. Ltd., 1-11 Hawke St., Melbourne C1, Australia

"THE TEXTILE REVOLUTION"

To get more complete analyses of the "challenging & dynamic" changes now going on in the textile industry (p. 47), fill in the card below for—

1. The June 7 speech by J. Spencer Love, Burlington Industries (discussed on the following Long-Range View page)

2. A series of 6 recent TEXTILE WORLD editorials on this same subject.

Please send me....copies of J. Spencer Love's June 7 address on "The Textile Revolution."

Please send me....copies of reprints of TEXTILE WORLD's series of editorials on "The Textile Revolution."

Name .....

Title .....

Mill .....

Street .....

City .....**State** .....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y., July, 1958

Please send me .... copies of J. Spencer Love's June 7 address on "The Textile Revolution."

Please send me....copies of reprints of TEXTILE WORLD's series of editorials on "The Textile Revolution."

Name .....

Title .....

Mill .....

Street .....

City .....**State** .....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y., July, 1958

"THE TEXTILE REVOLUTION"

To get more complete analyses of the "challenging & dynamic" changes now going on in the textile industry (p. 47), fill in the card below for—

1. The June 7 speech by J. Spencer Love, Burlington Industries (discussed on the following Long-Range View page)

2. A series of 6 recent TEXTILE WORLD editorials on this same subject.

First Class Permit No. 64
(Sec. 34.9 P.L.&R.) New York, N.Y.

BUSINESS REPLY CARD
No Postage Stamp Necessary If Mailed in the United States

5¢ Postage Will Be Paid By—

Textile **World**
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

First Class Permit No. 64
(Sec. 34.9 P.L.&R.) New York, N.Y.

BUSINESS REPLY CARD
No Postage Stamp Necessary If Mailed in the United States

5¢ Postage Will Be Paid By—

Textile **World**
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

The Textile Revolution

[On June 7, Spencer Love of Burlington Industries made a speech on the "challenging and dynamic" textile industry. We consider his analysis of the present and future of the industry of such vital concern to everyone connected with textiles that we turn this page over this month to some of the highlights of this penetrating speech.]

"The wonderful world of textiles is now at the beginning of a challenging and dynamic change. Today the textile industry is revolutionized. What we have now is a whole new industry—a forward-moving revolution perhaps greater in magnitude than the revolution brought on by the cotton gin and automatic machinery.

15 New Fibers

"To begin with, the industry's horizons have suddenly lifted from the four classic fibers (flax, wool, cotton, and silk) to 21 or more. The first of the new ones, rayon, was brought out in the 20's; but the last 15 or more fibers have all come in the years since World War II. These man-made fibers have not only revolutionized the clothing industry but have had significant impact on all industry. They have become important factors in the automobile, rubber, electrical, glass, and scores of other industries.

"The growing concern of other big industries with textile manufacturing has meant a focusing of many new creative talents on the development and use of fibers and fabrics. In the process of all this modern experimentation and research, we have occasionally lost some markets as we have gained others. New challenges and opportunities are constantly appearing.

Exciting New Field

"One of the most promising and exciting new fields is the proper dyeing and finishing of the new fabrics that are coming off the looms. For centuries dyeing and finishing were skilled trades. Now they are sciences, for the discovery or invention of every new fiber and every new blend is not the end of a road but simply the beginning.

"There is no such thing as a perfect fiber, and the best use and fullest development of each new one as it comes along can be discovered only after the most painstaking research and a lot of trial and error.

"This spirit of research and experimentation—which is the mainspring of the textile revolution—does not stop with new materials. It also involves both new uses and new knowledge of old materials.

"Cotton, for example, still fills the major role in the demand for all fibers. There are promising signs, through new processing, of increasing cotton's affinity for dyes, of increasing its heat endurance, and of improving its elongation.

"And in wool, the age-old problem of shrinkage moves a little closer each year to a solution.

"Can we develop air-conditioned fabrics? How soon will we have run-proof hosiery? When will we be able to duplicate yarn-dyed goods by printing?

"How about prospects for the ultimate dirt and dust repelling finish that will require only a damp cloth to clean?

"What are the chances of developing fabrics that do not need sewing but that can still be handled in conformity with the demands of style?

Restless Frontiers

"But there are other frontiers equally restless. One is marketing. Markets will inevitably expand with the incredible rise in population (3-million a year) and the formation of new family units in the decades ahead.

"But it would be a mistake to sit back and wait for population increases to bring us more business. We still have a long way to go in making the American people 'textile conscious.'

New Fortunes To Make

"It is true that for the past three or four years textile profits have been low. No one should be misled by this. Even during the last several comparatively lean years many new fortunes have been made.

"And mistake me not, many more will be again. The relative depression of the last few years only makes more certain the period of revival and progress that is ahead.

New Textile Men

"Knowledge of the technical side of textiles is important, but it is not enough. This is an exceptionally complicated industry, and there is an unusually high dependence on ability to make decisions and to make them fast and right.

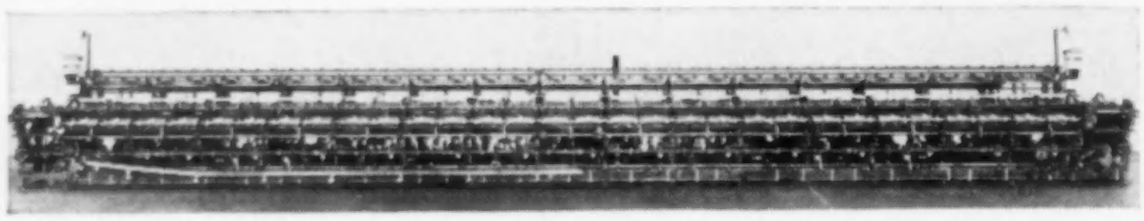
"If you can develop ability to assume responsibility, you can get to the top faster in the textile industry than in almost any other business. But to do this, you will need to develop also a wide range of interests and become expert in understanding, not just one or two aspects of the textile industry, but all of them.

"The textile industry is restless today. It is constantly probing for better ways of doing things, seeking new materials, new techniques, new processes, new uses, and new markets.

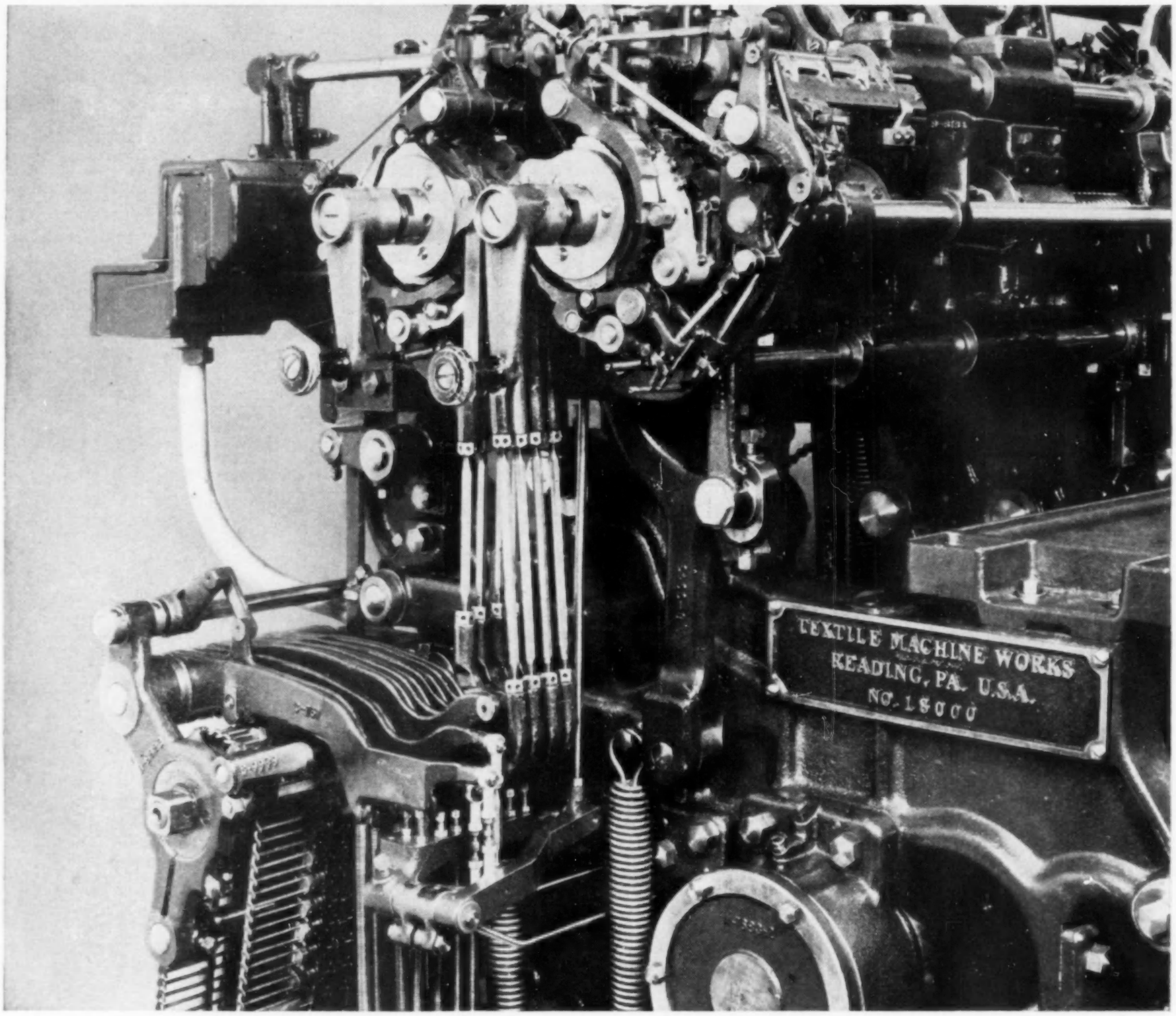
"The need for men of superior talent and real breadth has never been more urgent than under today's conditions. Running an operation depends on teamwork between styling, merchandising, planning, and manufacturing. Sound knowledge and understanding of *all* these functions are essential to the man who is to move forward into positions of leadership."—J. Spencer Love

[We urge every reader of TEXTILE WORLD to read Mr. Love's entire speech. To get a copy of this fine speech, fill in one of the cards to the left of this page and drop it in the mail. Burlington has kindly agreed to mail the speech to anyone requesting it.]

D. M. Thomas



. . . . . the machine that almost thinks for itself



More Flexibility with the Automatic Narrowing Head

The Automatic Narrowing Head feature of the "Reading 100" Full-Fashioned Knitting Machine makes possible the knitting of a larger number of stocking styles with a minimum of mechanical changes. Eliminates the possibility of operator error. Narrowing fingers are positioned automatically — no stopping of machine to reposition fingers by hand. Narrowing spindles and carrier spindles are racked out automatically at the end of a set. With the mill-proved "Reading 100", you get continuous, uninterrupted production of fine quality stockings at lower per dozen costs, and the operator can earn more money.

Knitting Machine Division
TEXTILE MACHINE WORKS, READING, PENNA.
Reconditioning Plant at Asheboro, N.C.
Builders of Textile Machinery Since 1900

The "READING 100"
Full-Fashioned Knitting Machine

The "Reading" CK-A Circular Knitting Machine • The "Reading" Tricot Machine • The "Reading 100" Full-Fashioned Knitting Machine
The "Reading" Full-Fashioned Outerwear Machine • The "Reading" Braiding Machine • Textile Spring-Beard Needles • Arrow Latch Needles

← For more data, write this page number on Reader-Service card.

Textile World

Volume 108, No. 7. July, 1958

MANAGEMENT TECHNIQUE—

How To Measure and Compare MILL PERFORMANCE

- One of management's most vexing problems in operating more than one mill is measuring and comparing the performance of one mill with that of another
- Also, in a single mill, management often needs a better measurement of its own performance in each of several cost factors of operation
- Here is a technique Shuford Mills worked out for measuring such factors as raw-material cost, labor cost, waste, quality, and personnel effectiveness in each of its 11 mills and comparing one mill with another

BY WENDELL M. PATTON, JR., Asst. Gen. Mgr., Shuford Mills, Inc.

THE AIM

Shuford Mills wanted a method for comparing its various mills on certain factors of operation. Management wanted to be able periodically to rank each of the 11 mills in the organization from the best to the worst and to generate a spirit of competition among the superintendents.

THE PROBLEM

But how could such measurements and comparisons be made? For example, we wanted to know which mill has the best raw-material cost, even though each mill uses a different grade mix of cotton and varies its mixes and blends almost daily.

We wanted to know which mill is producing the best quality in terms of our various quality measurements, even though each mill produces different yarns and fabrics and different ranges of quality.

How could a mill be held responsible for its waste when it did not control its grade or mix of cotton?

How could a mill using a large percentage of waste as a raw material ever look good when compared to one using 1 1/16-in. Strict Middling cotton?

How could labor costs be compared when the manufacturing processes and size of operation varied so much?

These and countless other questions cropped up at our general advisory meetings. The over-all task and the limitations of various approaches were discussed thoroughly in these group sessions. Everyone soon was made aware that there was no technique currently available that would answer our needs. We would have to design our own.

THE SOLUTION

Gaining group approval is nothing new, but it seemed particularly important in this instance. A technique of measurement and comparison was to be devised that we knew would not answer all of our problems, one that we knew would be full of loopholes if anyone were attempting to rationalize or excuse poor performance.

We were anxious to accomplish two things: (1) to make the limitations known in advance, and (2) to gain the support of each member of the group. With each person contributing his ideas and personal feelings, both pro and con, toward the construction of the over-all plan, he thus became ego-involved and much less inclined to criticize.

First, we chopped our big problem into smaller ones that we could handle. Even some of these smaller ones had to be broken down again until we had a definite starting place with a stated objective. We set up these problems and objectives in a series of steps that we hoped would accomplish our over-all purpose.

The 10 Measurements We Use

The necessary measures of performance were the first concern. In discussion, the measurements boiled down quickly to factors over which the mill superintendent had some element of control. Since the profitability of each mill was so dependent upon the Sales Department, cotton purchases, and fluctuating prices, profit figures could not be used.

After considerable discussion the management group considered five areas of primary importance: raw-material cost, labor cost, quality, waste, and personnel factors. These five areas were later broken down into specifics that

could be measured and tabulated.

The quality area was measured by yarn breaking strength and size variation. The waste area was broken down into three factors: invisible waste, reworkable waste, and nonreworkable waste. The personnel area was subdivided into three factors: housekeeping, labor turnover, and suggestions.

These breakdowns made a total of 10 factors that were to be used to measure each plant periodically.

Of the 10 factors, the mill superintendent can directly control all of them except the first one, raw materials. However, raw material has a direct effect on most of the factors that are under the control of the superintendent. For this reason, this factor was added to the list as a "special factor" of greatest importance in analyzing variations in the other factors.

The factors that we use in our comparison may or may not fit other operations. We discussed many others—such as direct labor, indirect labor, accidents, absenteeism, machine efficiency, etc.—but for various reasons they were discarded; and our list boiled down to these 10.

How Necessary Data Are Obtained

For the periodic raw data necessary for plant comparisons we call on five departments: Personnel, Standards, IBM, Controller, and Technical Service. Our figures are obtained in the following manner:

Raw materials. This factor represents actual cost per pound of cotton opened for a given period of time. The actual cost was used rather than current or replacement cost because it was believed to make a more meaningful figure. This cost is not directly comparable from plant to plant.

Labor costs. Both direct and indirect labor costs are included in this figure. It is taken directly from our Cost Reports, which were already in existence. The unit is labor cost per pound and is not directly comparable from plant to plant.

Breaking strength. This item represents the break factor of a representative yarn selected for each mill. The yarn number varies from plant to plant, but it is always a stock item for each representative plant. This factor is not directly comparable.

Size variation. An average of percent variations for several yarn numbers in a given plant is used for this factor. It is converted into a coefficient of variation and is not directly comparable from plant to plant.

Invisible waste. This figure represents the actual difference in pounds between the cotton opened each quarter and the finished goods produced, plus visible waste. It is not directly comparable from plant to plant.

Reworkable waste. This unit is also given in pounds and represents only the waste that can be reworked and used again. This factor is not comparable from plant to plant.

Nonreworkable waste. The unit for this factor is in pounds and represents the actual waste considered unusable and sold each quarter. It is not directly comparable from plant to plant.

Housekeeping. Values used for this factor are obtained from periodic housekeeping inspection. These figures are directly comparable from one plant to another.

How To Find the T-Score

The formula we use is:

$$T = \frac{10\,(M-X)}{S.D.} + 50$$

where:

T = T-Score
M = mean of distribution
X = the raw measure
S.D. = standard deviation

For example: For a three-year base period for the raw-material cost for Mill A, let's suppose we have a mean cost (M) of 29.063¢ and a standard deviation of 3.82 (S. D.). For the current quarter, we find the raw-material cost to be 28.500 (X); so we substitute in the formula thus:

$$T = \frac{10\,(M-X)}{S.D.} + 50$$

$$= \frac{10\,(29.063 - 28.500)}{3.82} + 50$$

$$= \frac{5.63}{3.82} + 50 = 1.4 + 50$$

= 51.4 T-Score

We know immediately that any T-Score above 50 represents an improvement over the base period. So Mill A has cut its raw-stock cost. This T-Score of 51.4 can be compared directly with the T-Score of any other mill to determine which mill has done the better job. The reason this comparison can be made is that the T-Score represents where a mill stands when measured against its own performance. Comparing two or more T-Scores is merely determining which mill has made the most progress in improving its own record.

Sample of a Standard Score Card

Actual cost per 100 lbs.	Converted T-Score	Rank	
.2936	.58	4	Raw-material cost

Factors and Weightings

Area	Factor		Weighting
Raw materials			6
Labor			5
Quality			
	Break strength	2	
	Size variation	2	4
Waste			
	Invisible	2	
	Reworkable	1	
	Nonreworkable	1	4
Personnel			
	Housekeeping	1	
	Labor turnover	1	
	Suggestions	1	3

Labor turnover. This factor represents the actual labor turnover per 100 employees based on the number of employees on the payroll at the end of each quarter. It is directly comparable from one plant to another.

Suggestions. Figures used for this factor represent awards made for suggestions per 100 employees. It is directly comparable from one plant to another.

How the 10 Factors Are Weighted

As soon as management agreed on the important measures of the efficiency of our operation and some means of obtaining the data for these measures was developed, the question of the importance of each factor was tackled. Many hours were spent rehashing values and relative importance in contributions to plant efficiency. The values, or weights, which were finally agreed upon are shown in the accompanying table, "Factors and Weightings."

These values were assigned subjectively as the best composite opinion of the management group. They could have been determined statistically, but it was believed that the plan would gain acceptance more readily if the individuals concerned felt that the weightings made sense to them. For a refinement of this technique, it would be necessary to know the statistical relationships existing between these factors and the correlation of each of these factors to earning power.

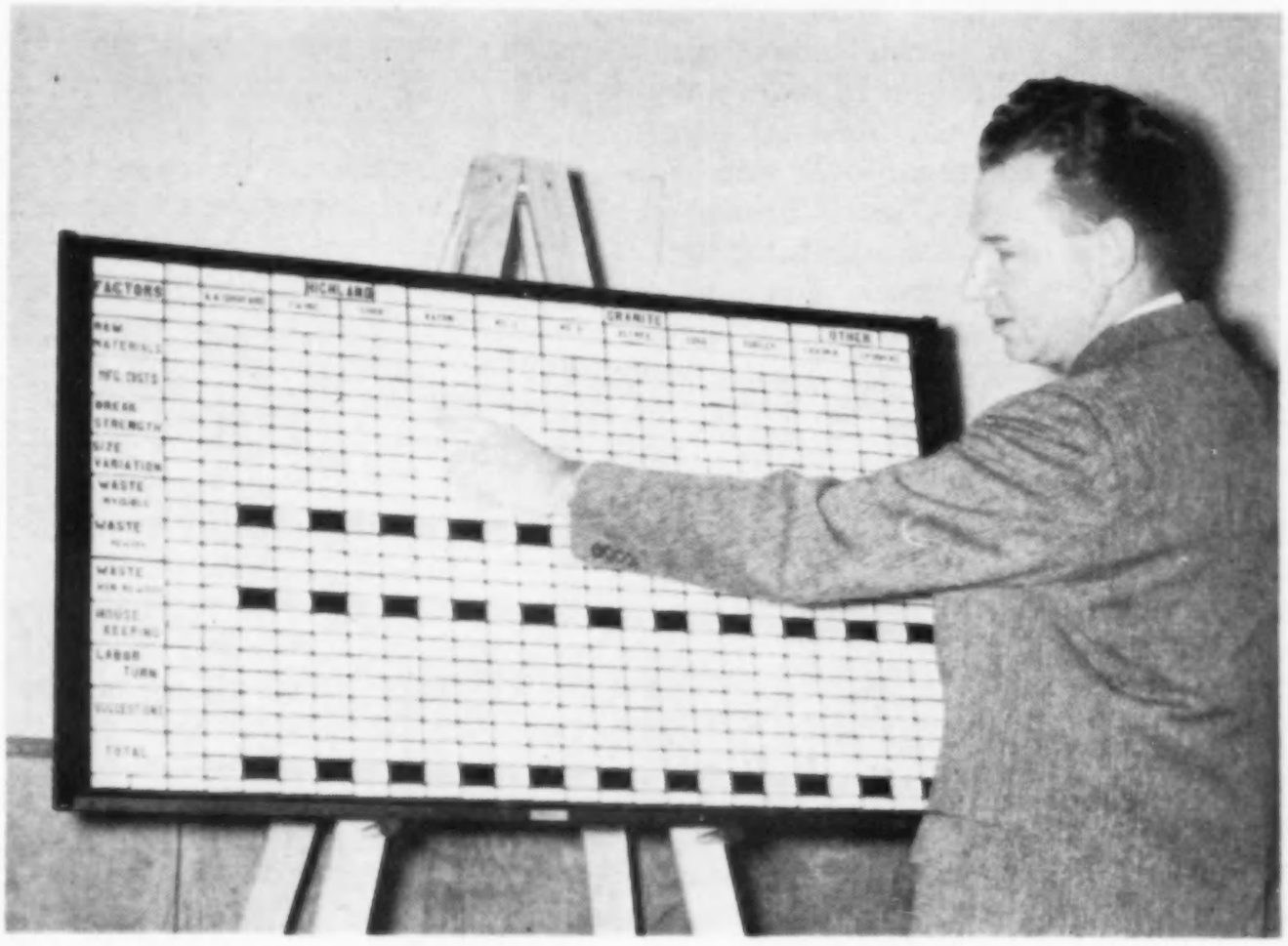
The next problem tackled was one of how frequently we should attempt to get these measures. Some of the measures were available weekly, others annually. In other instances, techniques had to be set up to obtain this information periodically. After studying the mechanics of getting the information and putting it together, we decided that our comparisons would be made quarterly.

It was also necessary that we decide upon a past base period to use as a standard or guide against which to measure present performance. We decided that our base period would be three years, or twelve quarters. This base period is kept current each year by adding the latest year and dropping the oldest year.

The T-Score Method

Since most of the factors are not directly comparable from one plant to another, some means had to be developed to show the relative position of these plants on various factors. This method of comparison is the very heart of our technique.

Psychologists have long known methods such as percentiles, stanines, and standard deviations that made it possible to compare unlike measures with each other. Apparently none of these methods are used extensively for comparing mill operations, but there is no reason why they can't be put to good use in an extremely practical sense.



THE AUTHOR explains the comparison scores on the control board. Scores by quarterly periods for 11 Shuford mills on 10 measurements of operation are shown on the board. The last entry, labeled "Total," shows the total rank, from 1 to 11, of each mill each quarter.

The method we selected was a form of the deviation-score principle called the "T-Score." Since raw measures have little or no significance unless they can be compared, it is necessary to derive for each of these raw measures a measure of its relative position in the distribution to which it belongs. The T-Score is such a technique.

The T-Score corresponding to any given raw measure indicates how many standard deviations that the measure deviates from the mean of a distribution.

The use of the T-Score does not involve any assumption concerning the form of the distribution, but it can be more accurately interpreted if the distribution is approximately normal.

When we transform a set of raw measures into their T-Score equivalents, we are in effect arbitrarily substituting a new scale for the original. The new scale will range from 0 to 100, and 50 on the new scale corresponds to the mean on the raw-measure scale. Ten units along the new scale is equal to the standard deviation of the original scale.

Suppose that along the raw-measure scale for a given distribution we marked the positions of the mean and the standard deviations above and below the mean. Suppose also that on a wide rubber band we marked off in white ink 10 equally spaced points and numbered them 10, 20, 30, 40, and up to 100.

If we then placed this rubber band alongside the original raw-measure scale and stretched it until the point 50 on the band comes opposite the mean on the raw-measure scale and the point 60 on the band comes opposite the point one standard deviation above the mean on the raw-measure scale, the scale on the rubber band would then represent the T-Score scale for the distribution involved.

(A thorough discussion on the use and the limitations of T-Scores can be found in any elementary text on statistics.)

A simple method of computing T-Scores is shown in the accompanying panel, "How To Find the T-Score."

When all of the raw measures in a large distribution are to be transformed into T-Scores, it's much easier to prepare an Equivalence Graph than to apply the formula as shown. The steps in preparing a graph of T-Score equivalents for the raw measures of a distribution are shown in the accompanying panel, "How To Prepare an Equivalence Graph."

Why T-Scores Are Comparable

When all of the raw measures with which we are concerned have been converted into T-Scores, we have essentially changed the measures of all plants to conform to a scale that will begin with 0 and go to 100, with a

mean always being 50. These T-Scores are directly comparable. The higher the score, the greater the improvement. Any T-Score above 50 represents an improvement over the base period, and any T-Score below 50 represents a lower score than the average for the base period.

For example, we might find the following situation between Mill A and Mill B in comparing labor costs:

Mill	Labor cost	T-Score
A	7.923	49
B	9.628	61

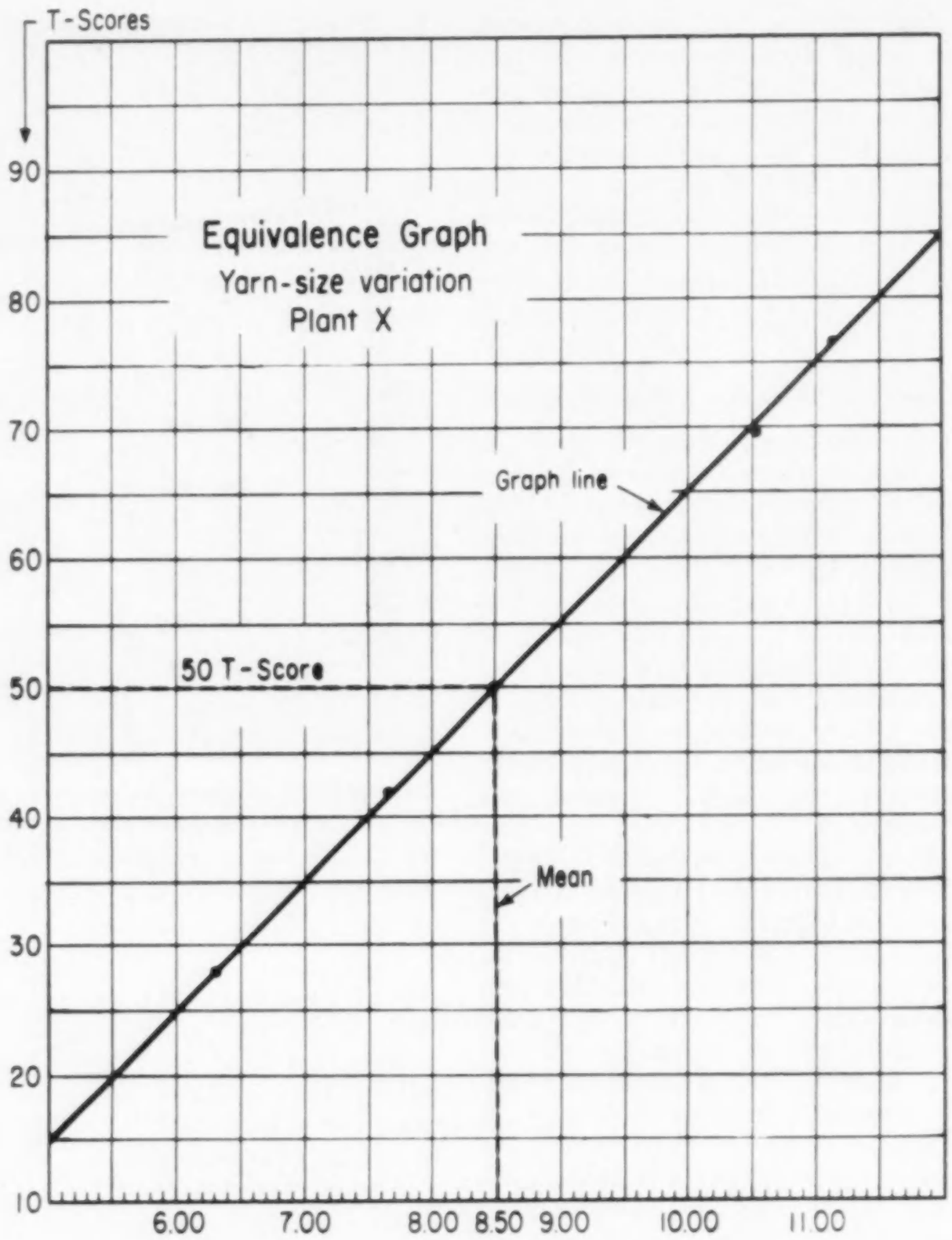
In this illustration, we have Mill A with a current quarterly labor cost of almost 2¢ less than Mill B. When we convert the actual raw measure of labor cost into T-Scores for each of these mills, we have Mill A with a T-Score of 49 and Mill B with a T-Score of 61. From these scores we can see immediately that Mill B is doing the better job as far as labor costs are concerned, even though its labor cost is greater than Mill A's.

We know by the T-Score of 61 (since 61 is greater than 50, the base score) for Mill B that it is operating at a lower labor cost than it did over the past base period. We also know that Mill A is not doing quite as well as it has done in the past (since 49 is less than 50). By the use of T-Scores, we can compare a mill both with itself and with another mill.

The Ranking Method

Since one of the end products of our plant-comparison system was to rank our mills and be able to say which mill is performing the best, second best, third best, etc., a method had to be worked out to bring the rankings of the 10 factors together in a single rank. Here is the method we use:

1. For each factor, the number of mills participating was determined.
2. On each factor the mills were ranked from high to low and numbered in that order.
3. Using the weightings for each of the factors shown in the table "Factors and Weightings," we multiplied the weight × the reverse ranking. (Reversing the ranking gives the high values to the best mills and vice versa.) This calculation gives points earned for each mill on each factor.
4. The maximum possible points were determined by multiplying the highest possible ranking in each factor × the weighting and adding these two values.
5. The final score was determined by dividing the actual total score by the maximum total score. This calculation yielded a percentage of maximum as the final score.



How To Prepare an Equivalence Graph

An equivalence graph will enable you to read T-Scores at a glance without having to compute them.

In the following illustration of how to construct the equivalence graph above, yarn size is used as an example. A graph for T-Scores on any other factor can be constructed in the same way.

1. Select a base period to be your standard of comparison, and go back and obtain figures for this period. (In this example, the figures would be yarn size.) The longer the period the more measures that are obtained, and the greater the statistical accuracy. However, in the mill operation, the longer the period the greater the chance of changes in operation during this period.

2. Compute the mean and standard deviation of this distribution (of yarn size).

3. Plot the raw scores (raw yarn numbers) along the horizontal scale on a sheet of graph paper. Begin your scale somewhat below your lowest figure during your base period, and extend it somewhat beyond your highest figure in order to insure complete coverage.

4. Construct the T-Score scale vertically, ranging from 0 to 100.

5. Select at least two measures from the low end of the distribution and two from the high end. Compute the T-Scores for these measures.

6. Plot these raw measures against their T-Scores on the graph paper. Also plot the mean of the distribution against a T-Score of 50. This plotting will give five points on your graph.

7. Connect these five points with a line, and smooth the line if necessary.

8. To use the graph, take any raw measure, locate it on the horizontal scale, go up to the curve, and read the T-Score on a vertical scale opposite that point.

6. The mills were then ranked from high to low on the basis of the final scores.

Comparisons To Be Made

In addition to being able to rank our mills, we wanted to make:

1. A comparison between various plants for any factor for the current quarter
2. A comparison between plants for any factor for the previous four quarters
3. A comparison of a single plant against itself for the previous year by quarters
4. A comparison of a single plant against its own past operating history
5. A rank order for each plant on each factor
6. The highest and lowest plants for each factor for each quarter
7. The total ranking for all plants.

From the beginning, it was definite that the whole plant-comparison system should center around a visual or master comparison board. There are many types of visual control systems available, any of which would do the job. The one that best suited our purpose was the Boardmaster, a visual control system measuring 24x38½ ins., with individual posting and columnar arrangements for standard cards.

The visual plan we use for Shuford Mills is shown in the photograph on page 51. Measurement factors are listed vertically at the left, and the mills to be compared are listed horizontally across the top. Spaces for four quarterly scores for each measurement for each mill are provided.

On each of these quarterly cards, we type the raw measure, the T-Score, and the final ranking for a mill. In addition, we use colors to aid in interpretation. For each factor, the mills in the upper 30% are designated by the use of blue cards and those in the lower 30% red cards. By glancing down the columns for any given mill, it is easy to see whether or not the mill is progressing or falling backward merely by looking at the predominant color.

Horizontally across the bottom of the board we have the total ranking for each mill. Thus, each quarter each plant will have an over-all rank of 1 to 11 designating the position of the mill in our organization for that quarter.

How Shuford Uses the System

At the close of a current quarter, as soon as the necessary information is supplied by the various departments, the Technical Service Department prepares three items:

1. The Board—T-Scores are computed, rank determined, proper color selected, and the board completed.

2. The Data Sheet—All raw measures, T-Scores, and rankings for each mill and each factor are duplicated.

3. Summary of Significant Changes—Variations and fluctuations are analyzed, and those that are statistically significant (caused by some definite change of operation and not a mere chance fluctuation) are summarized by mill in the form of "Why" questions.

The Master Comparison Board and accompanying material are presented to the Advisory Committee consisting of the president, vice presidents, general superintendents, and heads of staff departments. The Data Sheet and Summary of Significant Changes are furnished each person present. The following week the same procedure is followed again at each of the three divisional meetings of mill superintendents.

Analysis Is Emphasized

The mill superintendent is expected to study the Data Sheet and the Summary of Significant Changes until he is thoroughly familiar with all changes occurring in his operation for the current quarter. He is expected to analyze these changes and at the next superintendents' meeting furnish the general superintendent a written explanation of variations and changes outlined on the summary.

In no sense of the word are the superintendents put on the spot or expected to defend themselves. As much, if not more, attention is given changes representing improvements than those suggesting some kind of remedial action. The emphasis is entirely on understanding and knowing reasons.

The general superintendents review these statements at the next Advisory Committee meeting and at that time add their own thoughts and comments.

What Key Men Think of the System

As Alex A. Shuford, Jr., president of Shuford Mills, Inc., expresses it, "The Comparison Board enables us to see immediately our strong and weak points in a given operation. This information can then be put to work in other plants."

The general superintendent of the Granite Falls Div., Neill W. Clark, Jr., said, "The most worth-while part of this plan is bringing the mill superintendents into it, making them think and give their own ideas."

One mill superintendent commented, "I was on the bottom of the pile last quarter, but you can bet your bottom dollar I won't be there next time."

Another began to realize for the first time the importance of low raw-material cost. "I never thought I'd see the day when I'd be asking for cheaper stock, but now I see that's the secret of the whole thing."

This comparison procedure, in spite of its limitations, has done much to create an awareness of the importance of specific factors in making a mill successful. Top management has realized that it was not furnishing the individual mill managers with enough basic information to do their jobs. Staff departments have improved means of sampling, testing, measuring, and maintaining data, principally as a result of the mill superintendents seeking explanations as to why changes occurred. Mill superintendents themselves have developed new insights into the relationships of these operating factors.

What Shuford Gets Out of It

Probably the greatest value is being achieved through the use of the Summary of Significant Changes. When a mill superintendent is asked to explain significant changes occurring in his plant each quarter, in many instances he has to put out effort and study to find the answer. He is encouraged to call on any staff department for additional facts or assistance.

The values of the plan to Shuford can be summarized as follows:

1. It makes information available and in a form that can be compared.
2. It shows trends over a period of time.
3. It promotes friendly competition by using group or social pressures rather than managerial force.
4. It makes explanations necessary.
5. It develops a questioning attitude as a result of searching for reasons to explain changes in scores.
6. It develops an ability to relate cause and effect.

The Drawbacks—

Our plan is not without faults. One of the biggest handicaps is the fact that it is hard to understand. It is difficult to explain a T-Score or how you can compare one mill with another. People tend to be suspicious of computations that they cannot understand, and our case is no exception. In the beginning, rationalizations were given in the form of citing disadvantages of one mill as opposed to advantages of another.

Another serious drawback is that the T-Score is computed on a past distribution; and any major changes, such as those of machinery or type of yarn, can introduce rather wild fluctuations. When the T-Score is computed, a

CONTINUED ON PAGE 128

Georgia Carders Analyze SRRL OPENERS in Use

Opening-room machinery layouts used in connection with the SRRL opener were discussed and results compared at the spring meeting of the Textile Operating Executives of Georgia at Georgia Institute of Technology, Atlanta, Ga. Other subjects covered included—

- Picker beaters
- Card screens
- Large sliver cans
- Flyer presser fingers

SRRL Openers—

Seven mills reported on the use of SRRL openers. Some mills reported that the openers produce fewer neps in the card web and better yarn tensile strength. Both flat and compressed bales were processed at 800 to 2,000 lbs. per hr.

Mill B—"Our SRRL opener is supplied by a blending feed table that takes stock from F-5 feeder hoppers via an inclined six-beater Superior cleaner.

"No tests have been made, but it is our opinion that the tensile strength of yarn has not been affected greatly by use of the SRRL opener. Neppiness in card webs improved moderately.

"One of the more important benefits is the removal of much pepper trash. Both flat and compressed bales are processed at approximately 800 lbs. per hr. through the cleaning line, which meets our production requirements."

Mill I—"Our SRRL opener does an excellent job of cleaning and blending, and it requires little maintenance. Cotton is supplied by hoppers and preopeners; the SRRL machine feeds directly to three picker hoppers. When we installed the SRRL opener, we also put in new feeder hoppers and preopeners.

"Our nep count is down, but we cannot attribute this fact directly to the SRRL machine. No change was noted in tensile strength of yarn. We process both flat and compressed bales at 1,200 lbs. per hr."

Preopeners Are Used

Mill K—"Our opening line consists of eight F-5 feeders and one waste feeder. From a preopener in front of each F-5 machine, cotton drops onto a feed table that transports it to the SRRL cleaner. A separator in the picker room pulls the cotton into the pickers.

"We process both compressed and uncompressed bales at 2,000 lbs. per hr. No change has been noted in neps or tensile strength since the SRRL cleaner was installed in 1954."

Mill S—"We use the SRRL cleaner on low-grade stock and blends of 40% waste. Both flat and compressed bales are processed at approximately 1,300 lbs. per hr.

"The cleaner is fed by 10 blending feeders and one No. 11 dust extractor; from the SRRL cleaner, the stock goes into a No. 11-over-12 cleaner. This arrangement permitted us to lower the grade of our stock and still produce as good an end product as before.

"The SRRL machine itself does not do much cleaning, but it blends and opens the stock so that subsequent processes do a better cleaning job. Break factor went up 50 points. We have not studied the effect on neps."

Relative Humidity—

Seventeen mills gave the relative humidities maintained in opening and picking rooms. Range was from 40 to 65% r.h., with most mills preferring 50 to 55% r.h.

Mill A—"Opening room has 40% r.h.; picker room 47½% r.h."

Mill B—"About 45% r.h. is best for our operation. We tried to lower the moisture content of the stock by extending a duct from a 58,000 Btu. unit beater to a Centrif-Air machine in the cleaning line. The arrangement caused chokes and curled cotton; we discontinued its use."

Mill C—"Both departments have 55% r.h."

Mill H—"We do not have controlled humidity, but we do use turbo heads in our man-made-fiber department. Relative humidity is 65%."

Mill Q—"We maintain 55% r.h. in our opening and picking room. We are not attempting to remove moisture from stock at present, but we believe the practice would materially improve cleaning."

Picker Beaters—

Twenty mills gave the types and speeds of picker beaters used and reasons why specific beaters were selected. Although the majority of mills use blade beaters in the back and Kirschner beaters in front, a number of other arrangements were described.

Mill A—"We have one-process pickers with two beater sections. Two-blade beaters are used in the breaker section because we believe we get better cleaning and fewer neps.

"Kirschner beaters are used in the finisher section because we get a more-even lap and have fewer split-outs at the card. Both beaters run 1,000 rpm."

Mill C—"We use a two-blade beater in the back and a carding beater in front. The blade beater removes the heavy trash and motes, and the carding beater opens the cotton."

Mill D—"On warp stock we use a spike beater in the back and middle sections and a Kirschner beater in front. On filling we have a spike beater in the back, a two-blade beater in the middle, and a Kirschner beater in front.

"The spike beater is best for removing motes and trash; the blade beater causes fewer neps; the Kirschner beater

felts a smoother lap. All beaters run 1,050 rpm."

Mill F—"We use Kirschner beaters in both the back and front. The back beater runs 1,186 rpm.; the front beater runs 1,238 rpm."

Mill J—"We have Kirschner beaters in both sections. We remove more trash and break fewer fibers by running the back beater at 31 blows per inch and the front beater at 50 blows per inch."

Mill N—"We have a 20-in., three-blade beater in the back, a 16-in., two-blade beater in the middle, and a Kirschner beater in the finisher section.

"The 20-in. beater is used because we feed a very heavy sheet of stock from the reserve box. Breaker beater runs 695 rpm., intermediate beater 975 rpm., and finisher beater 985 rpm."

Mill T—"Our pickers have an Aldrich beater in the back and a Kirschner beater in front. Both run 1,100 rpm."

Card Screens—

Five mills reported on the use of perforated card screens. In most instances, waste was reduced.

Mill L—"Fly was reduced 25%; our present card-fly figure is 1.25%. No effect on nep count or quality was observed."

Mill J—"We use Middling Strict Low bright cotton. Waste from our perforated screens is about half that of the rib screens. Nep count is low and quality is good."

Tests Were Favorable

Mill V—"We use American-Egyptian and California Middling cotton. Our cards are equipped with both regular and Elliott screens. Here are the test results:

	Screen	
	Regular	Elliott
American-Egyptian cotton		
Neps	12.2	11.3
Fly (%)	1.01	0.53
Total waste (%)	5.46	5.97
California cotton		
Neps	13.2	10
Fly (%)	0.95	0.68
Total waste (%)	6.06	6.79

"The effect of perforated screens on quality has not yet been determined."

Large Sliver Cans

The problem of filling and transporting large roving cans was discussed by five mills. Three mills reported that spring-bottom cans should be used; two mills said spring bottoms are unnecessary. No unusual handling problems were reported.

Mill A—"We have 5,000 16x42 roving cans in use, and we transport them on trucks that hold eight cans. Spring-bottom cans improve quality, reduce waste, and hold the same amount of sliver as cans without springs."

Sliver Coils Evenly

Mill F—"We push or slide cans along the floor because short distances are involved. More sliver can be put into spring-bottom cans because the coils are laid more evenly at the start of doffing."

Mill H—"We handle 18x36 cans by pushing them along the floor for short distances. Springs are unnecessary; more sliver can be put in cans without springs.

"If drawing frames are equipped with mechanical-pressure tube-gear knock-off motions, the spring exerts additional pressure against the tube gear and causes the frame to knock off too soon."

Mill Q—"We use 15x42 and 16x42 cans and haul them on a carrier that holds 18 to 20 cans.

"We do not use spring bottoms in card cans but do use them in drawing cans. The difference in capacity is very small. Spring-bottom cans hold slightly more sliver because the sliver is laid in flat instead of in the form of an inverted cone."

Mill U—"We handle 18x42 cans the same way we handle 12x36 cans, but we are looking for a better method of handling cans. Spring bottoms are necessary to keep the sliver from piling up in the bottom of the deep cans."

Presser Fingers on Flyers—

Three mills reported on the use of double-eye presser fingers on flyers. Reports were not very favorable.

Mill D—"We were not able to get a full doff off the frame; the ends tangled before the bobbins were half full. We tried one, two, and three wraps and 1.2 and 1.35 twist multipliers. We make 11x5½ packages that weigh 2 lbs."

Mill N—"We produce a 9x4½ package. By making lay and taper changes in connection with the double eye, we increased package size 13.5% with our regular flyers and 18.5% by using flyers with an enlarged hole and four grooves in the nose. Twist was not increased, and we use only one wrap."

Mill U—"In our experiments, we wrapped the presser fingers 3½ times and did not increase the twist. Bobbin weight remained the same, and there was very little difference in the quality of the roving."

Humanics—A TW Brief

Lose Your Temper And Have an Accident

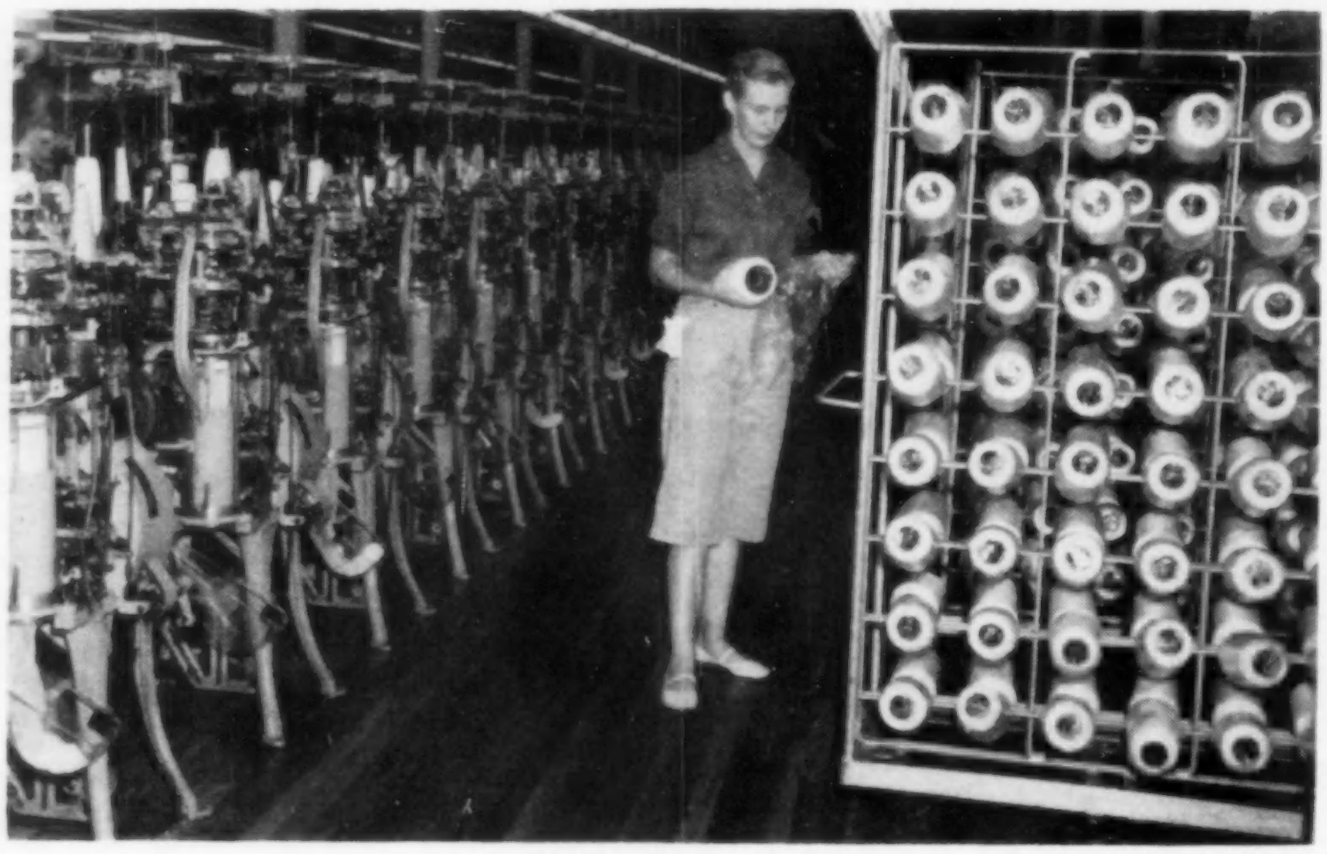
There is a definite relation between your state of mind and your chances of having an accident.

When they are angry, people often do foolish things.

A worker will often deliberately commit unsafe acts when he is mad. Anger causes rebellion against all rules and regulations.

Of course, a supervisor can't keep all his workers in a good frame of mind all the time. But he can watch for symptoms of trouble brewing, and he can be careful not to stir up resentment in his dealings with others.

Supervisors should see that temperamental workers who occasionally blow their tops do not endanger their own safety and that of others. The best way to start is for the supervisor to learn to control his own temper and thus set an example.



NYLON YARN is handled on these aluminum trucks and is not unwrapped until it is required on the knitting machine. These hosiery machines have brushes in the cylinder to provide tension on the fabric.

Alba's New Seamless-Hosiery Addition Has Modern HANDLING METHODS

• Reduced handling of seamless hosiery is one of the features helping this North Carolina mill produce more top-quality stockings. Aluminum racks are used to hold stockings on the looping machines, and aluminum trucks are used to transport yarn and stockings.

WHEN A NEW ADDITION to consolidate seamless-hosiery operations was completed at the Pineburr Mill of Alba Hosiery Mills, Inc., Valdese, N. C., many handling techniques learned in years of fine-gauge-stocking knitting were adopted. Both yarns and stockings are handled to keep faulty stockings to a minimum.

The new addition was built specially for seamless-hosiery knitting. The 162x42-ft. two-story brick building has its roof supported by central pillars that fit in the machine line and leave the aisles clear. The machines are laid out in six lines of 50 on the upper floor.

All knitting machines are equipped with take-up devices to knit even stitches. KN machines have the grab take-up, while the Bentley machines have a series of brushes that control the fabric loops from inside the cylinder.

Open-top light fixtures arranged down the center of each aisle let ample light reflect on the white-painted ceiling and illuminate all parts of the room. An air-washing system keeps the temperature at 80° F. and the relative humidity at 55%.

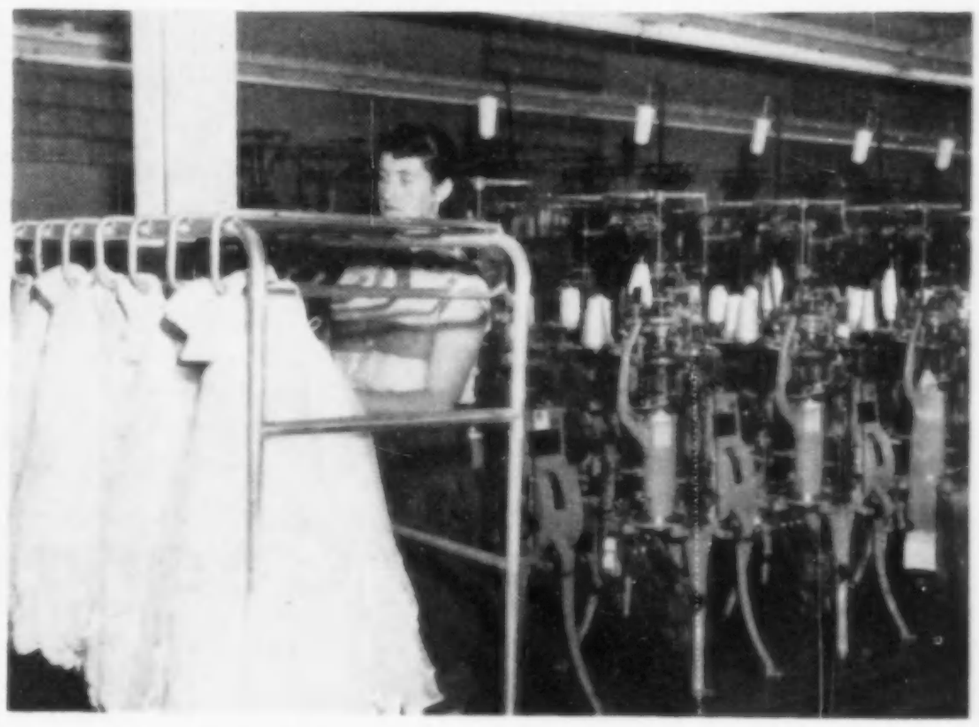
Nylon yarns are treated as carefully as the stockings. When the yarns are unpacked from the cases, they are immediately placed on metal trucks that have individual pegs for each package.

These racks are pushed to the knitting machines, and the wrapping

LOOPING MACHINES have racks that hold the arms from the knitting trucks. Each looping machine has an individual light, and stockings are laid on a table under the dial while they are looped.

INSPECTING MACHINES are arranged behind the looping machines, and the work is arranged so that handling is reduced. Forms have been moved away from the tables so that the stockings fall in the trays.

STOCKINGS are examined on forms that are pushed up and down the aisle. Examined stockings are sorted on the table that holds the form. Open-top lighting gives good reflection from the white-painted roof.



RACKS to hold stockings are positioned at the end of each aisle, and one shift's production is laid on one rack. Each arm on the rack contains one style, and tickets are colored to identify the length.

is not disturbed by the knitter until the yarn is needed. These racks are kept replenished with yarn from the stock room.

Welt yarns are 40- and 50-den. preshrunk nylon with 10-tpi. twist to resist shrinkage. Leg yarns are 15-den. nylon wound on 1½-lb. pirns.

These large pirns run for 60 hrs. and have helped improve length problems. When a yarn package runs low, it is pigtailed to a second package; so the machine is not stopped.

All Stockings Are Inspected

Stockings are collected from the knitting machines and taken to a mobile table that has round-bottom legs so it can be pushed easily up and down the aisle. Each stocking is inspected for faults and for size while it is drawn over a black plastic form attached to the table.

The stockings are then laid on the table according to the style of the stocking. Each row of machines knits several styles, and each machine is labeled according to the style and size stocking it knits.

When the knitter has collected 1 doz. pairs of stockings of one size and style, she ties them up with a looper clip passed around the welts. Faulty stockings are laid on the knitting machine to call the fixer's attention. These stockings are tied separately but are passed through with their styles.

The stockings are then hung on racks stationed at the end of each knitting aisle. These racks, built in Alba's machine shop, are aluminum and are mobile on casters. One knitter's production from 50 machines goes on one rack.

Each rack has arms for eight different styles. Colored tickets with round corners that help keep pull threads down are slipped on the arms of the rack. The color of the ticket identifies the length of the stockings. Pink tickets are used for short stockings, white tickets for average-length stockings, and green tickets for long stockings.

Up to 10 doz. pairs of stockings are hung on each arm of the rack. The knitter fills in the correct number of stockings at the end of the shift. The stockings are then pushed to the looping room on the racks.

Looping machines are driven from individual drives from ⅓-hp. motors to reduce vibration when loopers run at different speeds. Each looping table has an individual light over the working area. There is also a double row of lights over the looper's head to give good all-round lighting.

Aluminum racks to keep the stockings free from pulls are extensively used in the looping room. Racks on each looper's bench are made from 2-in. aluminum pipe screwed securely to the bench top.

Handling Is Reduced

The racks hold two arms that are delivered from the knitting room on the trucks. These arms contain stockings to be looped.

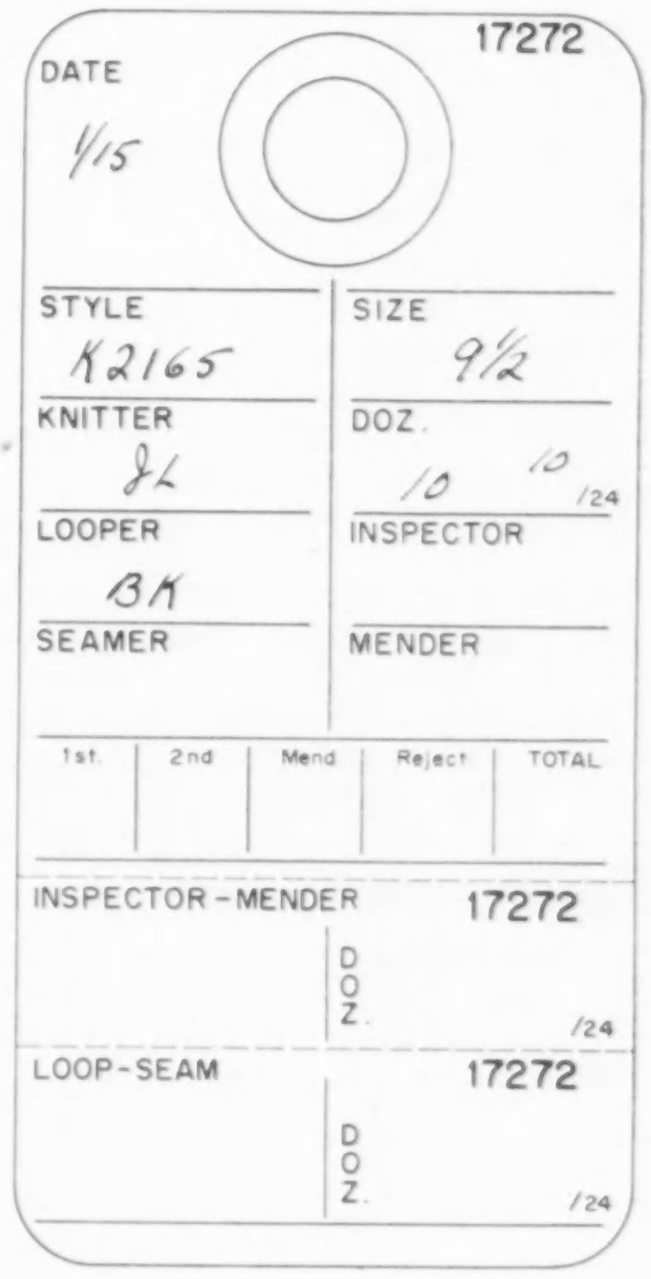
Use of these arms eliminates handling of the stockings between the knitting and looping operation. The racks can be moved sideways to keep the operator from stretching for work.

The supervisor keeps looper operators supplied with stockings. Because girls get accustomed to looping certain stockings, supervisors try to keep operators on the same styles.

Each dozen pairs of stockings is lifted from the rack and laid on a cloth-covered table under the looper dial. The looper clip is kept in place on the welts, but no more than 2 doz. pairs of stockings are allowed to accumulate on the table at one time.

An elastic band stretched over the table keeps the stockings in place while they are worked on. A metal ring under the dial keeps the stock-

CONTINUED ON PAGE 122



TICKETS have rounded corners so that sharp edges do not cause pull threads. Tickets are in three colors to readily identify short, average, and long stockings.

Spinning TAPES and SPINDLES Highlight Georgia TOE Forum

Operating executives from mills representing 1,135,723 spindles thrashed out many spinning problems at the spring meeting of the Textile Operating Executives of Georgia. Other subjects discussed included—

- Creeling roving from carts
- New long-draft systems
- Synthetic vs. leather aprons
- Warper efficiency

ONE OF THE MORE-TIMELY TOPICS discussed at the spinning session of the Textile Operating Executives of Georgia was nylon spinning tape, which most of the mills appeared to favor over cotton tape because of its longer life.

Antifriction spindles with rubber mounts came in for a drubbing by several mills because of bobbins sticking and spindles getting out of plumb.

The newer long-draft spinning systems were said to be satisfactory, although a few mills reported that cots tend to slip and break. Overhead frame cleaners were said to be giving good results in all except one instance.

The old fight between synthetic and leather aprons came to life again, with synthetic aprons winning out. Reporting mills unanimously agreed that warper efficiency can be greatly increased if larger beams are used.

In addition, a number of standard operating practices were compared by the reporting mills.

Here are the details:

Nylon Spindle Tapes—

Ten mills reported on the use of nylon spindle tapes. Although in some instances tests were incomplete, the reports indicated that nylon tapes last longer than cotton tapes and improve machine efficiency.

Mill E–"The life of our nylon tape is two years. The tape is used on frames spinning 4s to 30s carded and combed knitting yarn. We are using the tape on 11-oz.-package frames and on conventional frames with 1⅞- to 2¾-in. rings."

Mill M (Plant A)–"We have been running a comparison test since 1955 on cotton and nylon bonded tapes operating on two 240-spindle long-draft frames. Yarn numbers are 4s, 6s, and 8s; spindle speed ranges from 4,344 rpm. for 4s to 6,129 rpm. for 8s.

"So far, we have run each frame 13,415 hrs. Ten cotton and two nylon tapes have been replaced."

Power Consumption Was Cut

Mill M (Plant B)–"After 1,120 operating hours at 5,550-rpm. spindle speed, our tests showed that ¾-in. nylon tape reduced power consumption 27.33% on frames spinning 6.75s with 2¾-in. rings."

Mill O–"Our tests showed that nylon tapes reduced power consumption 5 to 7% on warp spinning and 12 to 15% on filling spinning. Our average yarn number is 24s, and spindle speed ranges from 9,000 to 9,500 rpm. We estimate that nylon tape lasts about twice as long as cotton tape."

Mill R–"We have four frames equipped with nylon tapes that have been running two years. Six tapes were lost because of bad bonding and improper setting of idlers.

"Savings for the period included 60% fewer tapes off, fewer idle spindles, and about $2 per frame per year for power."

Creeling Roving—

Five mills gave their experiences in creeling roving from carts; all reported reduced costs and improved quality.

Mill C–"We do 30% of our creeling from carts. Each spinner uses two carts for different-size roving, and she loads her own carts. The system eliminated 50% of our roving haulers and reduced spinning labor cost 11%."

Spinning Cost Increased

Mill L–"We have a different cart for each size of roving. We figure that direct labor cost for spinning increased

5.2% when we started creeling from carts because of the extra time required for the spinner to walk to the storage area, stack roving in the cart, and push the cart while patrolling. On the other hand, roving handling cost was reduced 75%."

Mill R—"We are saving labor and improving quality by creeling from carts. Spinners creel different-size roving in different carts. Stock is rotated so that the spinner can drop off one cart and pick up another one containing a different-size roving without loss of time.

"We made a timestudy and learned that there is one less motion in creeling from a cart than there is in creeling from the top of the frame."

Spinning Rings—

There was a difference of opinion as to the proper flange size for rings spinning given yarn numbers. Some of the reports are:

Mill B—"We run 3s to 26s on No. 2 flange rings and find this size completely satisfactory."

Mill F—"We run 5s and 12s on No. 2 flange rings."

Mill L—"We run from 10s to 43s on No. 1 flange rings."

Mill N—"On No. 1 flange rings, we run 26s and 31s warp and 41s and 35s filling. We do not use No. 2 flange rings."

Mill O—"We find No. 1 flange rings satisfactory for numbers ranging from 48s to 110s."

Mill U—"We do not use No. 1 flange rings; we run from 3s to 30s on No. 2 flange rings."

Long-Draft Systems—

Thirteen mills reported on the newer long-draft systems. Most of the mills scrub rolls every six months and have put more weight on the top rolls. Three mills reported that they have had trouble caused by cots slipping or bursting.

Mill A—"We scrub rolls every four months and have increased top-roll weight from 52 to 77 lbs. We spin 80-hk. roving into 14.25s yarn with a draft of 17.8; 1-hk. roving is spun into 26s yarn with a draft of 26."

Mill B—"We scrub rolls every six months and have increased weight on the top rolls from 45 to 61½ lbs. We spin 1-hk. roving into 20.5s yarn with a draft of 20.5. Cots have given us no trouble."

Maximum Draft Is 32

Mill Q—"We scrub rolls every nine months and have increased top-roll weights from ½ to ¾ lb. each. We spin 4s to 42s from 0.75- to 1-hk. roving; maximum draft is 32. We have had some cots burst."

Mill V—"Our roll-scrubbing schedule is every 83 working days, and we have increased weights to 60 and 70 lbs. We do not like to draft higher than 25. We spin 3s to 30s filling and 14.5s to 25s warp. We are changing to a permanent type of cement to keep cots from slipping."

Leather vs. Synthetic Aprons—

Most of the reporting mills said that they prefer synthetic aprons because they are more durable. Some mills said synthetic aprons split, and two mills complained of loading.

Mill A—"Our objection to leather aprons is that they absorb oil, get soft and crack, and collect lint on the underside. This lint causes apron drag and cockled yarn. These problems were overcome by installing synthetic aprons."

Changed Back to Leather

Mill N—"Synthetic bottom aprons are more durable, but lint accumulates between the edge of the apron and the nose bar. We had too many ends down when we were using synthetic aprons on the bottom rolls; we now use leather."

Mill S—"We find that synthetic aprons are more durable. Leather aprons collect a mat of lint on the bottom side more quickly than the synthetic aprons. The life of synthetic aprons on coarse numbers is much longer than the life of leather aprons; and the synthetic material keeps its shape better."

Antifriction Spindles—

Most of the mills reported that antifriction spindles with rubber mounts are satisfactory, but a few have had trouble in keeping the spindles plumbed. The spindles get out of line when stuck bobbins are pulled off.

Mill A—"Our experience with antifriction spindles has not been too satisfactory. We have had trouble in lifting the bobbins off the spindles; the stuck bobbins caused the spindles to be pulled out of plumb."

Mill B—"We have had no serious problem in lifting bobbins off spindles; but we find it necessary to plumb spindles every three months, compared with 12 months for conventional spindles."

Mill K—"Our rubber-cushion New Era spindles are very satisfactory."

Mill U—"Our spindles got out of plumb frequently when they were first installed. We put more power on the torque wrenches, and the extra tightening helped a lot."

"We oil our lifter rods, and the oil causes the rubber washers to rot; we are constantly replacing washers. There was quite a problem in getting the bobbins off the spindles until we started waxing the tips of the spindles."

Frame Cleaners—

Most mills reported that down-draft cleaners over spinning-frame top rolls reduce roll cleaning greatly. One mill said that the cleaner blows gouts into the work but believes that the trouble can be corrected by leveling the rails.

Mill E—"Our cleaning frequency before installing the cleaner was: creels 4 hrs., thread guides 35 mins., back sides 8 hrs., and top creels 8 hrs.

"Our schedule now is: creels 40 hrs., thread guides 12 hrs., back sides 48 hrs., and top creels 120 hrs."

Mill Q—"We changed from a 120-hr. to a 240-hr. roll-picking schedule after installing the cleaner over a frame spinning 24s."

Warper Efficiency—

Four mills reported increased efficiency and fewer breaks when they changed from 26- to 36-in. warper beams.

Mill G—"When we changed to a 36-in. beam, efficiency increased 40 to 50%, ends down decreased 30%, and waste decreased 30 to 40%. We run the warper 900 yds. per min."

Mill Q—"We changed from a 26- to a 38-in. beam, and speed was increased from 700 to 900 yds. per min. on our 54-in. warpers. There was a slight decrease in efficiency.

"On our 72-in. warpers, we run the same speed as before but have increased the operator's work assignment from 1 to 1½ warpers. There was a slight decrease in efficiency, but warper labor cost decreased 10%."

Alabama Mill Men Review
New MULTICYLINDER SLASHERS

• Alabama Textile Operating Executives from 16 mills spent most of their slashing discussion on one very timely subject—multicylinder slashers. In just one year's time, slasher production at several mills has been doubled. Here's what the men are doing—

THE TEMPO OF THE SLASHER session of the meeting of TOE changed this year from previous years:

Only last year, for example, men were interested in improving older slashers by adding rubber-covered rolls and pneumatic presser rolls. Production was figured in ounces per minute, and mills were averaging 550 to 700 lbs. of slashed yarn per hour.

But this year, men are thinking of new multicylinder slashers and greater production. Now production is measured in pounds per hour and ranges from 600 to 1,200 lbs. per hr. on fine yarn to 1,500 lbs. per hr. on coarse yarn. The average is about double that of only one year ago.

Mill A—"We're slashing 1,200 lbs. per hr. on 1,400 ends of 9s yarn up to 5,040 ends of 15s yarn. Steam pressure on the cylinders is 28 psi. Slashers have nine cylinders of 60-in. diameter; the cylinders are 57 ins. wide.

Fan Cools Yarn Before Recording

"To permit accurate recording, electric fans cool the hot dried yarn before it contacts the moisture-control recorder."

Mill B—"We slash 600 to 650 lbs. of yarn per hour on 1,700 ends of 15s yarn. Slashers have seven cylinders 60 ins. wide. Pressure on the first three cylinders is 60 psi.; and on the last four, it's 35 psi. At present, we don't have any way of cooling the yarn before it reaches the moisture recorder."

Mill C—"We slash 1,500 lbs. per hr. at 100% efficiency. Yarns are 2.65s through 15s; ends per set are 1,500 through 7,884. Steam pressure on the cylinders is 30 to 40 psi. Slashers have 11 cylinders 66 ins. wide. One fan dries the yarn before moisture is recorded."

Production Is 1,500 Lbs. per Hr.

Mill D—"On our 9- and 11-cylinder slashers, we slash from 1,200 to 1,500 lbs. per hr. Yarn numbers range from 8s to 21s, and sets have from 1,150 to 6,500 ends.

"Steam pressure is 30 psi. on the front cylinder and 40 to 45 psi. on the back cylinder. The cylinders have two temperature controls: one for the front Teflon-covered rolls and the other for the back stainless-steel rolls. Cylinders are 60 ins. wide. A fan cools the yarn before moisture is checked.

"One slasher has a double front to run two loom beams at once, and five slashers have single fronts. All slashers have stainless-steel hoods with exhaust fans.

"We have rubber-covered squeeze rolls and delivery rolls. Squeeze rolls have 50 psi. added pressure. Size pick-up is 12%."

Mills had to make several changes in slashing materials and methods when they changed to multicylinder slashers. Changes by mills are:

Mill A—"We use 40-fluidity starch and add 9 to 14% size to the yarn. Two size boxes are on each slasher. Added pressure to squeeze rolls is 350 psi. We use yarn-wound rolls on the front roll and rubber-covered rolls on the back. Slasher speed is 50 to 105 yds. per min. Moisture left in the warp is 6½%."

Mill B—"On multicylinder slashers, we use thin-boiling starch of 60 to 70 fluidity. Size added is 3½%.

"One size box is used, and rolls are rubber-covered. Over-all squeeze-roll pressure is 925 psi. Average slasher speed is 90 yds. per min., and 6½% moisture is left in the yarn."

Mill C—"We use pebble starch; and since changing to multicylinder slashers, we've cut our size concentration about 10%. We have one size box on some slashers and two on others.

"Rubber-covered squeeze rolls are used, and added pressure is 50 psi. Slasher speed varies from 40 to 90 yds. per min. Our moisture-content recorder is set at 6%."

Mills Think of Rayon Yarn

One question asked by the chairman received only three answers, but many mills had requested that the question be asked: "How do you slash rayon?"

This question appeared to be a sleeper because two men in the participating audience said:

No. 1—"Mills asked the question because they have the idea of getting into rayon."

No. 2—"If present cottons continue in price and quality for another year, many mills will be in rayon."

Mills now running rayon gave the following methods:

Mill A—"We run spun rayon with 1,750 to 9,000 ends per set. Yarns are 20s to 40s. Temperature of size in the size box is 170° to 180° F. Temperature of the slasher cylinders is 210° F. down to 130° F., back to front.

"We add 200-psi. pressure to the squeeze rolls. Stretch left in the yarn is 4½%; the more stretch pulled out of the yarn at the slasher, the better the yarn runs at the loom."

Mill B—"On rayon yarn, we use a special light-concentration size and increase squeeze-roll pressure. We creel rayon yarn in the same way we creel cotton yarn, but we increase the weight applied to the section beams. We increase the stretch taken out of the yarn. We use a traversing pressure roll and use the same pressure we use for cotton."

Mill C—"For our rayon-yarn size formula, we use 100 lbs. of starch, 5 lbs. of wax, and 75 gals. of water. Over-all squeeze-roll pressure is 750 lbs. Cotton-yarn creeling methods and beam weight are used. Stretch is 6%."

New officers elected at the spring meeting of Alabama TOE were:

Dwight Epperson, Montgomery, *general chairman*
Wendell Morriss, Birmingham, *vice general chairman*
Doe Pyle, Eufaula, *executive committee*
Virgil Redden, Tallassee, *executive committee*
Howard C. Arnold, Clinton, *executive committee*

Research Specialist Tells STA How To Process 1957 COTTON

"Field-damaged 1957 cotton can be spun successfully by blending it with Western cottons having a low Micronaire reading," says James N. Little, Anderson, Clayton & Co. This report, presented before the Piedmont Div., Southern Textile Association, also points out how to lower cotton cost by—

- Using lower grades of cotton
- Using off-color cotton and shorter staples

MILLS SPINNING EASTERN-GROWTH, field-damaged cotton from this year's crop report increased waste, more ends down in spinning, weaker yarns, and excessive fly.

One solution to the problem of spinning field-damaged cotton is to blend this cotton with undamaged, strong, fine cotton. In Anderson, Clayton & Co.'s spinning laboratory, studies were made in which Eastern-growth, field-damaged cotton was blended in various percentages with El Paso, California, Arizona, and Texas cottons. Both the Eastern and Western growths consisted of a 50-bale mix.

The field-damaged Eastern cotton when spun alone produced an extremely weak yarn; but as increasing percentages of strong, fine cotton were added to the blend, there was a corresponding increase in yarn strength.

The Eastern-growth cotton used in these studies had a Micronaire reading that averaged 4.2; the Western growths were finer. Readings ranged from 2.4 for the El Paso to 3.0 for the Arizona cotton.

The Eastern cotton improved yarn appearance consistently as it was blended with El Paso cotton. The El Paso cotton was extremely fine (2.4); and when spun alone, it produced a yarn that was below grade in appearance.

The other Western cottons were slightly coarser and had Micronaire readings of about 3.0. With the exception of the blends containing the El Paso growth, the yarns with the best appearance were made from blends containing about 50% each of Eastern and Western growths.

To improve the strength and appearance of yarns containing field-damaged cotton, Western cottons used in the blend should have Micronaire readings ranging from 2.8 to 3.4.

The Micronaire readings of blends of field-damaged cotton with fine, strong cotton showed practically the same relationship to the number of neps in the card web as normal undamaged cotton. The number of neps in the card web decreased as the amount of field-damaged cotton increased.

How To Cut Cotton Cost

Studies in the ACCO laboratory and the practical application of the findings of these studies in mills showed that a considerable saving in raw-cotton costs can be made by:

1. Careful control of blending in the opening room
2. Use of cotton having the lowest average Micronaire reading consistent with the quality of yarn to be produced
3. Use of grades that, because of rough harvesting, contain more leaf trash than the cottons formerly used
4. Use of shorter staple lengths compensated with fine, strong fiber
5. Use of spotted or off-color cotton

Bales selected for blending should give about the same average Micronaire reading for each mix from day to day. Otherwise, cotton having a low Micronaire reading will be delivered by the feeders at a faster rate than cotton with a higher reading if the combing rolls are set at the same distance from the lifting apron. The combing rolls should be carefully adjusted so that each feeder will deliver cotton at the same rate of production.

The careful blending of bales to maintain a mix with the same day-to-day fiber properties offers these advantages in processing:

1. Cleaning machinery can be set for maximum cleaning efficiency, which lowers cost.
2. Picker laps will be more uniform in weight because the density of the lap is affected by the fineness of the cotton.
3. Trumpets for cards and drawing frames can be standardized because the diameter of the sliver will remain constant.
4. The best roll settings can be determined and maintained in drawing, roving, and spinning.
5. Optimum lay and tension gears for the roving frames can be selected and maintained.
6. Frequent changes in draft gears will be unnecessary.

Yarn Diameter Is Constant

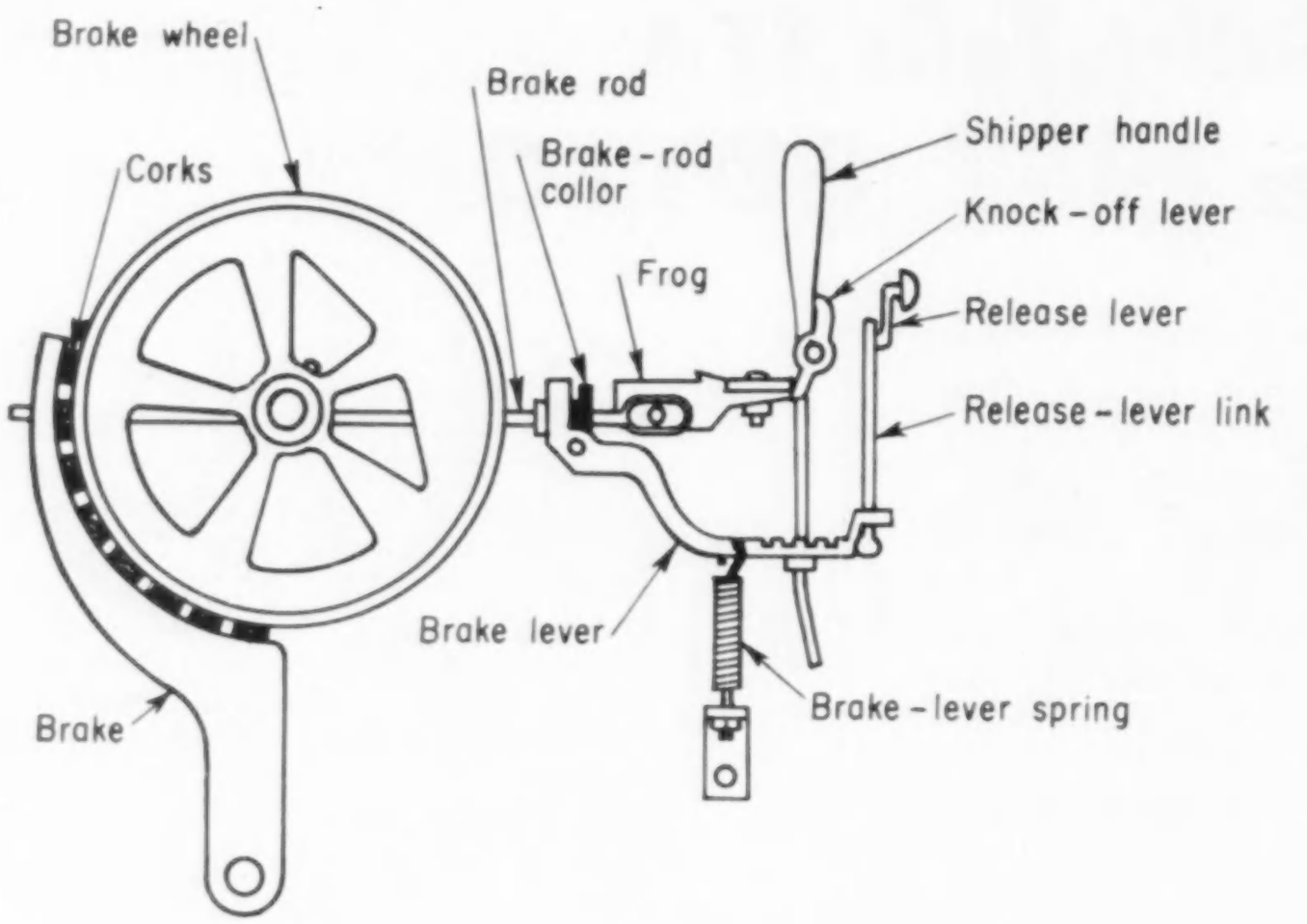
One of the most important advantages of good blending is that the diameter of yarn remains constant from day to day. Yarn diameter is affected by the Micronaire reading of the cotton; for example, cotton with a low Micronaire reading produces a yarn that is larger in diameter than the number indicates. Maintenance of the same yarn diameter by careful blending offers these advantages:

1. Each spinning bobbin contains approximately the same yardage of yarn per doff.
2. Automatic spoolers wind approximately the same yardage.
3. Warper creels contain approximately the same yardage.
4. Weaving contraction remains more nearly constant.
5. Appearance and hand of fabric are more uniform.

If the mill exerts careful control over blending, it may be possible to use cotton with lower Micronaire readings and save money. Although Micronaire readings of 3.8 and above are required to produce some yarns of the highest quality, most staple yarns used in sheeting, duck, osnaburg, drill, and other basic fabrics can be made from blends of cotton averaging from 3.0 to 3.5. Blends having average readings in this range give excellent manufacturing performance.

The yarn usually contains a few more neps, however, and is slightly lower in appearance grade than yarns produced from cottons with higher

CONTINUED ON PAGE 120



COMPONENT PARTS of the brake motion of an E-model loom must be adjusted closely for correct operation.

How E-Model LOOM BRAKES Can Be Made More Effective

If you have E-Model looms in your mill, you may find that the brakes are being neglected. When the brakes are put into good condition, you can get better results because—

- The weaver's job will be easier
- Loom efficiency will be increased
- There will be less breakage of yarn and loom parts

THE X SERIES OF DRAPER LOOMS has many refinements not found on the older E and K models. The most notable advance has been in the precision-machined parts as compared to the rough, molded parts of the earlier models.

Considerable latitude can be employed in setting many of the parts of the older looms. Many loomfixers become lax and neglect certain loom parts and motions because the looms will continue to operate without close settings. One of the parts most often neglected on E model looms is the brake.

Any loom with a defective brake is inefficient. When the loom stops, the shuttle will be trapped in the shed. The weaver must exert extra effort, and time is lost while he positions the shuttle and levels the harnesses. When he pulls the lay back, the weaver often gets grease and oil on his hands from the hand wheel or brake wheel and transfers it to the cloth.

Faulty Brakes Are Hazardous

When the brake does not operate correctly, there is always the possibility of broken loom parts and break-outs when the loom stops for any reason. There is also an accident hazard when anyone stops a loom that does not have a good brake.

The external pressure brake as issued on E-model looms is a very simple mechanism. Setting it up correctly may take a little time; but once set, it requires little attention.

First, the brake wheel should be inspected for flaws. Some of these wheels are of the split type, and the joints may be rough. Or the bore may be too big and the setscrews or the key may hold the wheel off-center.

The brake should be lined with cork inserts or a solid strip of cork. Some of the brakes have leather or fabric bands. These materials are not as effectual as cork, especially when they become oil-soaked.

At its lower end, the brake fits onto a bushing that is fastened to the loomside by a single bolt. A slot in the loomside through which the bolt is fitted permits adjustment so that the brake fits the contour of the brake wheel. This setting should be checked before any other adjustments are made.

The brake rod is attached to the brake and to the frog. It is adjustable lengthwise at the brake by means of a sleeve nut and a lock nut. The brake rod should be adjusted so that the brake does not touch the wheel in normal position but makes tight contact when the frog is pushed forward.

Be sure the frog bumper is in good condition; then with the dagger engaged, pull the lay forward until the frog lip pushes the knock-off lever far enough to disengage the shipper handle. The brake should then be pressed firmly against the brake wheel. Don't shorten the brake rod too much be-

CONTINUED ON PAGE 126

For clearer size, truer colors

. . . in warp sizing and in finishing, use TEN-O-FILM starches.

In warp sizing, TEN-O-FILM starches cook completely in thirty minutes and remain stable through prolonged heating and circulating. Sizing and desizing of all types and blends of yarns may be done at lower temperatures to reduce "bleeding," and permit use of a great variety of dyes.

In finishing, the clarity of film produced by TEN-O-FILM is a real advantage. There is no masking of colors in dyeing man-made fibers.

Our technical service group has had wide experience and marked success in adapting this versatile starch to the varied needs of many textile applications. The production advantages and process improvements achieved by TEN-O-FILM can be fitted to your needs by consulting our textile technicians. Contact our nearest sales office or write direct.

TEN-O-FILM® starches

Fine products for the Textile Industry: EAGLE® • FOXHEAD® CLARO® • GLOBE® and TEN-O-FILM® starches • GLOBE® and EXCELLO® Dextrines.

CORN PRODUCTS SALES COMPANY
17 Battery Place, New York 4, N.Y.

Gown by Sophie of Saks Fifth Avenue

COLUMBIA-SOUTHERN CHEMICALS HELP SHAPE

IDEAS ON DISPLAY . . . watched every day by the management team building and selling successful products. Their responsibilities range from research and design to marketing and delivery.

These men and women make the profit-creating decisions for going, growing businesses . . . textiles, petroleum products, paper, metals, plastics, food, glass, soap, foils and wraps, chemicals, pharmaceuticals, cosmetics, rubber goods, disinfectants and cleansers. A vital part of their jobs is spotting and applying new trends in materials selection, processing, and handling that produce better goods at lower cost.

The versatile basic chemicals are deeply involved in the style changes continually reshaping almost all products and processes. Columbia-Southern, a leading producer of these essential industrial chemicals, can be a big help to your business as both supplier and technical adviser. Call Columbia-Southern with your next order. You'll soon see why Columbia-Southern chemicals, research, service, and technical assistance help shape profitable futures for products. The Columbia-Southern Chemical Corporation, One Gateway Center, Pittsburgh 22, Pennsylvania. Offices in principal cities. In Canada: Standard Chemical Limited.

$NaHCO_3$—Sodium Bicarbonate • $CaCl_2$—Calcium Chloride • Na_2SO_4—Sodium Sulfate
KOH—Caustic Potash • CCl_4—Carbon Tetrachloride • NH_3—Anhydrous Ammonia

Caustic soda and chlorine, basic Columbia-Southern chemicals, are used throughout many industries . . . textiles, for one.

THE FUTURE FOR SO MANY PRODUCTS

LOOK AT Cl_2—CHLORINE

Highly reactive chlorine's transforming touch creates thousands of molecular regroupings necessary to economical processing of products ranging from solvents to plastics, wonder drugs to refrigerants.

LOOK AT Na_2CO_3—SODA ASH

This versatile alkali serves as basic raw material or essential "refiner" in the manufacture of glass, chemicals, detergents, ferrous and non-ferrous metals, pigments, soap, textiles, paper and many other items.

LOOK AT NaOH—CAUSTIC SODA

Petroleum producers and cellophane manufacturers, textile and rubber makers, businesses by the dozens put caustic soda's voracious appetite to work "eating" away unwanted organic or inorganic compounds.

LOOK AT H_2O_2—HYDROGEN PEROXIDE

One of Columbia-Southern's newer products, this compliant chemical has a range of reactions that permits its use for bleaching paper and textiles, as a rocket propellant, as a reagent in organic syntheses.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION A Subsidiary of Pittsburgh Plate Glass Company

HCl—Muriatic Acid • $TiCl_4$—Titanium Tetrachloride • $Ca(OCl)_2$—Calcium Hypochlorite
Chlorinated Solvents • Chlorinated Benzenes • Agricultural Chemicals • Chrome Chemicals

NO Detergent Juggling Allowed!

—get exact formulation for every textile processing need!

When you order from Jacques Wolf you get the detergent that's exactly right for your particular fabric—not a substitute that's almost right! That's because Jacques Wolf has a vast range of detergents that meet all the needs of today's tremendous variety in textiles. No need to "juggle" them around and send you "second best." What's more, prices are much lower due to recent production advances. In addition, new detergents are always being added to the line. Most important, Jacques Wolf gives you a free Custom-Formulating Service to make detergents to your precise specifications whenever you need them!

Typical detergent formulations—

SELLOGEN GEL*

SELLOGEN CONC. Sodium Oleyl Methyl Tauride

ORATOL L 48* Sulphonated Amide

PARNOL* Sodium Dodecyl Benzene Sulphonate (Powder and Liquid)

SELLOGEN H R* Alkyl Naphthalene Sulphonate

DETERGENT 0-245 Non-ionic Fatty Acid Condensate

BENSAPOL* Anionic Textile Scouring Agent

DETERGENT W-1750 Non-ionic; Low Foaming Properties

WRITE FOR NEW PRICE LIST plus free samples and data today!

JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

Plants In: CLIFTON, N.J., CARLSTADT, N.J. LOS ANGELES, CAL.

*Reg. U.S. Pat. Off.

Metallic Salts May Improve Cottons—

Hydroxides of aluminum, magnesium, and cobalt, and cobalt metaborate may be able to give cotton greatly improved resistance to weathering, rot, and mildew. Aluminum and magnesium hydroxides also provide added flame resistance, and cobalt metaborate increases the water repellency of cotton fabric.

These chemicals were chosen after screening experiments with a number of compounds and will be the subject of further research at Texas Women's University, Denton, Texas.

The research will try to determine whether it is feasible to use these compounds to improve cotton fabrics of various kinds for both indoor and outdoor uses. The project is part of a program conducted by Southern Utilization Research and Development Div., U. S. Dept. of Agriculture.

New Wool-Shrinkage Control Process—

Recent reports of French research into the stabilizing of wool fabrics show that poly (chloromethyl) ethers of polyhydric alcohols provide excellent dimensional stability to woolen goods.

Application involves only padding, drying, and curing at 120° C. for 6 mins.

A typical formulation is 100 parts of the pyridinium salt of ethane-1, 2, diol-di (chloromethyl) ether, 25 parts of sodium acetate, and 1,000 parts of water.

Fabrics treated in this way showed only 4.4% warp shrinkage and 3.5% filling shrinkage after six washes, compared to 15.8% and 32.2% losses in warp and filling respectively after similar washes on untreated goods.

New Finish for Cottons—

Cranston Print Works showed a new nonresin-type finish for cottons in New York last month.

Features of the finish include complete resistance to chlorine retention, permanent whiteness of fabrics treated with it, and their ability to shed wrinkles caused by wringing out after laundering by commercial- or home-laundering methods.

Technical details of the process were not disclosed, but the description would indicate that the cotton is reacted chemically with the new material. The development came as a result of a joint effort of Cranston Print Works and Deering-Milliken Research Corp.

Improved Fiberglas Printing—

Glass fabrics can be screen printed more easily by a process developed jointly by Owens-Corning Fiberglas Corp. and Interchemical Corp.

Formerly, Fiberglas fabrics that were to be screen printed required a special finish that did not contain Quilon. The printers applied Quilon as a separate operation after printing.

With the new printing emulsion, called Aquaprint-85, Fiberglas fabrics

finished with Quilon can be printed directly, with no aftertreatment necessary. Fabrics treated in this way have a good hand and 100 hrs. minimum lightfastness.

Tinged-Cotton Bleaching Improved—

British Patent 702,300 describes methods of bleaching blue- or gray-tinged cotton that produce 90° reflectance by the Hunter reflectance meter.

In one example the cotton is first kier boiled, which produces a reflectance of 68° Hunter. After washing, the goods are immersed in a solution of 0.775 parts peroxide, 1 part soda ash, and 1 part sodium silicate and held for 2 hrs. at 75° F. Then the temperature is raised to 185° F. and maintained for 3 hrs.

The steeping period is considered to be the key to the process because the inactivated solution penetrates deeply into the lumen of the fiber.

An alternative preparation method described in the patent is a prescour for 1 hr. at 75° F. in a bath containing 0.5% active chlorine at pH 9. The goods are then washed and kier boiled and finally processed by the latest bleach method previously described.

Another variation in the peroxide-bleach method is to add a total of nine parts of soda ash per liter of solution at short intervals over a 30-min. period. The temperature is kept at 75° F.

Improved Wool-Printing Process—

Vat dyes can now be printed on woolen fabrics by means of an acidic reducing agent that markedly reduces the damage to fiber strength that occurs when alkaline reducing agents are used.

The process is based on the use of formamidine sulfonic acid and is marketed under the trade mark of Manofast by Hardman & Holden Ltd., Manchester, England.

A typical screen-printing formula includes 5% formamidine sulfonic acid, 10% polyethylene glycol, 3% of salt SV (an I. C. I. product), 10 to 20% of water, and 52% British gum.

After printing the goods are steamed for 8 to 10 mins. at 100 to 102° C., rinsed, and oxidized with hydrogen peroxide and ammonia or sodium perborate at 60° C. Then they are given a final soaping. The reducing agent is not active at low temperatures, and for this reason prints may be held over between printing and steaming without fear of deterioration.

The process is also suitable for discharge printing if premetallized selected vat colors are used.

Strength losses by the new process average 6 to 8% on chlorinated wool as compared to losses as high as 27% after printing with alkaline pastes.

Continuous High-Temperature Processing—

A recent machine development in Germany permits continuous high temperature processing of single layers of fabric. Goods can be desized, bleached, or dyed in the range.

The unit consists of a padder synchronized with a large steam-heated

drum that carries an endless rubber belt around almost all of its circumference. The drum is enclosed in a housing that conserves heat and provides supports for the rollers that guide the rubber blanket on and off the drum.

The rubber blanket is guided in much the same way as the wool blankets that are common on compression-shrinkage machines.

In operation, goods are padded with the necessary materials and then are led between the rubber blanket and the heated drum. The seal is so tight that there is no loss of heat, and the temperature of the drum is transmitted directly to the cloth. There is no drying effect.

Desizing operations can be completed in 4 to 6 secs., at a rate of 82 to 125 yds. per min. Bleaching can be done at a rate of 110 yds. per min., according to reports.

Continuous dyeing is also possible in the machine. The higher temperatures that are possible speed up the dyeing process and improve penetration.

Prints can be developed in the machine after conventional printing and drying operations. For this purpose the goods are padded in a reducing agent and run onto the heated drum to complete the reaction.

At least one American machine manufacturer is reported to be developing a machine that will produce similar results.

NEW DYES AND CHEMICALS

Dyeing Assistant

Peregal AP . . . is recommended as an aid to speck-free padding of disperse colors on acetate fabrics and blends of acetate with cotton.

For light shades, 2 oz. per gal. of pad liquor is recommended. Medium shades require 3 to 4 oz. for each gallon of pad liquor. The pad color is made up by pasting the disperse colors in water at 100° F. Two-thirds of the total amount of Peregal AP are added with constant stirring, and the mixture is diluted with water at 190 to 200° F.

The balance of the dyeing assistant is added to water in the pad-supply tank, which should be about 190° F. The pasted dyestuff and assistant are then strained into the supply tank, and the final volume is made up with cold water.

Goods are padded in the solution at 140° F., and then they are put on a jig to produce a true dyeing. Pad liquor is added to the bath at the rate of 1/2 to 1 gal., according to the shade. About 1 lb. of Igepon T per 60 gals. is recommended for the dyebath. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.

Circle D-1 on Reader-Service Card

Silicone Softener

XLE-48 . . . is a nonionic silicone emulsion designed specifically for softening thermosetting-resin finishes.

The product improves the strength, abrasion resistance, and sewing qualities of fabrics to which it is applied. It is durable to washing and drycleaning and has high resistance to scorching and yellowing. It does not retain chlorine.

Important added qualities are its resistance to wet soiling and improved release of soil during laundering. Silicones Div., Union Carbide Corp., 30 E. 42nd St., New York 17, N. Y.

Circle D-2 on Reader-Service Card

Print-Paste Thickener

Viscobond . . . is a modified sodium-alginate product that produces bright, sharp prints with Cibacron dyes on cellulosic fibers. The product can be made into free-flowing pastes at 15% concentration and is used with Emulsifier SH to produce stable print pastes with excellent washing qualities. During the soaping operation the thickener washes out readily, and there is very little wash-down of color. Stein, Hall & Co., Inc., 285 Madison Ave., New York 7, N. Y.

Circle D-3 on Reader-Service Card

Dacron Reserve Colors

Specialized dyes . . . selected for dyeing textured-filament nylon fabrics in barré-free shades that are fast to light, washing, and perspiration, have the added characteristic of leaving Dacron white. The dyes are applied by the Sandonyl-Lyogen P method. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y.

Circle D-4 on Reader Service Card

Silicone Finish

ET 5297 . . . is offered as a water-repellent silicone finish for cotton and man-made-fiber knitted fabrics. The product is applied by exhaus-

tion methods, and the finish will withstand at least six washings at 160° F. The material can be used as a self-finish or combined with thermosetting resins to improve wash-and-wear effects. Dow Corning Corp., Midland, Mich.

Circle D-5 on Reader-Service Card

Wool Colors

Calcofast Neutral Yellow G, Calcofast Neutral Yellow 3 R, Calcofast Neutral Orange 2 G, Calcofast Neutral Orange R, Calcofast Neutral Red 6 B, Calcofast Neutral Brown 5 R, Calcofast Neutral Brown B, Calcofast Neutral Blue B, and Calcofast Neutral Black B G . . . are offered as an improved line of colors for wool, nylon, or silk that are suitable for dyeing tow, top, yarn, or piece goods.

The dyes require a minimum amount of acid and produce level shades that have very good wetfastness and lightfastness. All members of the group are easily wetted and have unusually good solubility. American Cyanamid Co., Dyes Dept., Bound Brook, N. J.

Circle D-6 on Reader-Service Card

Red Pigments

Monastral Reds . . .represent a new family of red pigments that have outstanding lightfastness, brilliance, bleed resistance, chemical inertness, heat stability, and good washing properties.

The range of reds and violets has intense color value that permits strong coloration even when cut with white or metallic pigments.

Textile applications of the range will include yarn pigmentation and pigment printing. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Circle D-7 on Reader-Service Card

Catalysts

Curite . . . brands a series of catalysts specifically designed to accelerate the curing of thermosetting resins. The products are based on metallic salts and organic compounds and are offered in water-white liquid form. They do not discolor at curing temperatures. Proctor Chemical Co., Salisbury, N. C.

Circle D-8 on Reader-Service Card

Pine-Oil Replacement

Hodag PX-1 . . . is a proprietary combination of alcohols, hydrocarbons, and surfactants that can be used as an antifoam, leveling agent, or solvent in a broad range of applications. It can be used to replace pine oil in most formulations where preservative properties are not necessary. Hodag Chemical Corp., 7247 N. Central Park, Chicago 45, Ill.

Circle D-9 on Reader-Service Card

Mildew Retardant

Laurel Mildant RX . . . protects cotton or rayon yarns and fabrics from damage caused by mildew. The product may be applied as a spray to stock or from the emulsion troughs of winders or wet twisters. Laurel Soap Mfg. Co., Inc., Tioga, Thompson, and Almond Sts. Philadelphia 34, Pa.

Circle D-10 on Reader-Service Card

Spot Remover

Rexosolve BCT . . . will clean up spots and stains incurred during the dyeing of Dacron. The product is applicable on jigs, becks, or pressure machines for fiber combinations that will tolerate caustic soda. Emkay Chemical Co., 319-325 Second St., Elizabeth, N. J.

Circle D-11 on Reader-Service Card

Scouring Agent

Emkapon DAC . . . is designed especially for scouring Dacron fabrics and to improve the dye acceptance of the fiber. The product can be used in jig, beck, or pressure-machine scouring operations and is resistant to hard water, acids, alkalis, phosphates, salts, and bleaching solutions. Emkay Chemical Co., 319-325 Second St., Elizabeth, N. J.

Circle D-12 on Reader-Service Card

Premetallized Dye

Lanasyn Brilliant Red 2 BL p.a.f. . . . produces bright shades on silk, wool, or polyamide fibers. The dye may be used as a self-shade or for shading colors produced with other neutral-dyeing Lanasyn dyes and some milling colors.

Shades produced with the color have excellent lightfastness and are extremely fast to fulling. Goods dyed with this dye retain their shade and fastness qualities after shrinkproofing by chlorine treatment. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y.

Circle D-13 on Reader-Service Card

Acid Color

Naphthol Blue Black B Conc. Purified . . . produces deep black shades on wool with acetate-reserve qualities equal to previously offered premium-priced dyes of the same type. The dye is equal in all other properties to Naphthol Blue Black B. Conc. (Acid Black No. 1 in the new C.I.). Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y.

Circle D-14 on Reader-Service Card

Vat Dye

Cibanone Green 6G Paste . . . produces full, yellowish-green shades that have excellent light- and all-around fastness. The color is stable to chlorine and vulcanization. Ciba Co., Inc., Box 25, Village Station, New York 14, N. Y.

Circle D-15 on Reader-Service Card

Flock Adhesive

Forever White . . . can be used as an adhesive for all man-made fibers, plastics, metal flitters, cork, mica, or other materials normally used in decorating fabrics. The adhesive is resistent to washing and will not yellow on storage or after launderings.

The films formed are flexible and easily cured at low heat in 15 mins. to 1 hr. and will cure in a few minutes at high heat. Lucerne Industries Corp., 61 Van Dam St., Brooklyn 22, N. Y.

Circle D-16 on Reader-Service Card

Vat Dye

Cibanone Brilliant Orange G-12 Paste . . . dyes cellulosic fibers bright orange shades of excellent fastness to light, crocking, and washing. The color builds up well and can be applied by pigment or reduced dyeing methods in jigs, package machines, open baths, or by conventional printing processes. Ciba Co., Inc., Box 25, Village Station, New York 14, N. Y.

Circle D-17 on Reader-Service Card

Why You're Losing Business To Foreign–Made Fabrics

Like it or not, one reason U. S. mills are losing business to foreign mills is poor finishing and loose colors on American-made goods.

Here are some common faults of American goods that consumers think need correction—and quickly.

BY MARY L. COWAN

Asst. Prof. of Textiles & Clothing, Ohio Universtiy

TO THE MANUFACTURER AND FINISHER of yard goods, a college classroom may seem to have no connection with his profit-and-loss statement. However, many of our college students in clothing-construction classes are buying Swiss and Italian cottons and Scotch woolens.

They are turning to these fabrics not because of the lure of the imported label nor, more important, because of superior surface design or weave, but because they find in working with these fabrics and similarly priced American fabrics that they encounter fewer finishing faults in the foreign product.

The following instances of problems presented by poor cloth construction, finishing, and printing or dyeing are not isolated instances but are representative of many wasted hours and disillusioned potential home sewers.

The most common fault in fabrics with which we deal is poorly tentered fabric. Many wool pieces have been brought to class that have been sold as firsts where the warp and filling threads meet at every angle other than at 90°.

Pulling and steaming and a large investment of time have in some instances made it possible to position the warp and filling properly so that a garment may be cut with the grain. In other cases, it was necessary to tack down the damp fabric to a table top or to use the family curtain stretchers. Such extra work is surely unnecessary.

Resin Finishes Give Trouble

The fabrics with special finishes are so set to resist creases and stresses that they prove impossible to straighten. If you cut a garment from biased cloth parallel to the selvage, the printed pattern wanders off at a diagonal; and if you cut the pattern with the printed design, the off-grain weave gives the sleeves and skirt an unsightly hang.

Just this semester, a reputable brand-name cotton with a yarn-dyed design and a drip-dry finish was tentered so that the filling threads met the warp at about a 45° angle. No amount of pulling was effective in this case, and the garment made from these goods will always be less than perfect.

Another fault that can be blamed on poor tentering is the damage done to knit goods by the tentering pins. The worst instances we have had in class have been on jerseys made of man-made-fiber yarns where yarns that were evidently weakened by overtentering broke into holes. One garment of intricate design was completed before the breaks began to appear. The retailer failed to make good on the sale; he blamed it on poor tentering in finishing.

Tentering faults, although time-consuming, are at least in some cases repairable. However, the instances of poor mending, where the mender has pulled her thread too tight, are hopeless. Unfortunately, this is again a fault that seems to grow in prominence as the garment construction progresses.

Poorly applied and incompletely cured finishes are hopeless of remedy and cause particular disappointment. No one wants to wear a garment redolent of a fish market or to wear or sew a flocked fabric that leaves a trail of dislodged flocking. However, both have been in our classroom within the year and were bought by girls who could ill afford the loss.

Loose Color Gives Trouble

Still another variety of problem presented to the teacher is that caused by poor sizing or printing. We have had a length of fabric that gave the effect of sporadic moiréing. It appeared to be a result of a reaction between sizing and dye.

Last week I spent some time helping a girl pull some fabric back to shape, and when we finished we both looked like characters from science fiction because the color had crocked off onto our hands and we had rubbed our faces.

The other headache that appears every term despite warnings is the fabric with the printed stripe or plaid printed on the bias. When printing is thus carelessly done, you can have a garment that hangs well or is pleasingly matched. You can't have both.

We also have the problem caused by unwise combinations of fibers and dyes. There was the dress made of spun-dyed acetate yarn and cotton in which the color shifted under a damp press cloth. The cotton yarn that was dyed to match the dope-dyed yarn had failed to be equally colorfast to moisture.

There are the fabrics attractive to the hand and eye that are poorly designed so that they are prone to splitting and slippage at the seams. This situation tends to be true in fabrics featuring both filament and staple yarns. We have also had this happen with a silk-acrylic combination.

Public Needs Information

One problem that needs cooperative work by teacher and manufacturer is that of supplying information for handling new fabrics that feature easy-care finishes. For instance, how are you to press open seams that have a finish that makes the seams spring back together? Obviously, you can't. You must therefore devise new sewing techniques to achieve a well-finished garment. If manufacturers are to push these new finishes, they must also offer suggestions to the consumer for intelligent use.

These various problems, if they appeared singly or seldom, might be annoying but excusable; but when they appear with the regularity of new classes, it is a real problem. These students and other sewing consumers who meet these problems become discouraged and cease to sew.

Disappointments from poor fabrics affect the morale of our classes and the pocketbook of the manufacturer and finisher. Because many of these faults are the result of carelessness, it would seem that in these days of straitened consumer spending that honest workmanship might again become the rule.

Penford Gums THE **MODERN** WARP SIZING FOR **MODERN** WEAVING

Penford Gums provide exceptional warp yarn protection in weaving all modern fabrics — Viscose, Cotton, Worsted, Acetate, Nylon, Dacron, Acrilan, Orlon, Dynel, Zefran and blends.

There is a Penford Gum that will fit your warp sizing requirements. Penick & Ford Technical Sales Service Engineers will gladly assist you by recommending exact formulations and will provide continuous technical service. Write us today.

← For more data, write this page number on Reader-Service card.

pour yourself an extra measure
of cleaning power
for every detergent dollar you spend!

Nacconol® SL

LARGEST SELLING LIQUID DETERGENT FOR TEXTILES!

Why? Because cost-conscious buyers know it gives them better money-value than most dry products . . . *more cleaning power per dollar* . . . on an active ingredient basis!

And, being a liquid, NACCONOL SL saves production time and costs, too. It's clean, easy to handle and requires no dissolving.

If this kind of two-way economy appeals to you, write for free sample and price quotation today.

Other forms of NACCONOL for wet processing include NACCONOL NR Flake, and uniform, non-dusting granules NACCONOL DB and NACCONOL DBX. All are minimum 40% active organic products.

NATIONAL ANILINE DIVISION
40 RECTOR STREET, NEW YORK 6, N. Y.
Akron Atlanta Boston Charlotte Chattanooga Chicago Greensboro Los Angeles
New Orleans Philadelphia Portland, Ore. Providence San Francisco Toronto

Allied Chemical

CHEMICAL TREATMENT

How Lebanon Finishes WORSTED OUTERWEAR

Lebanon Knitting Mill, Inc., Pawtucket, R. I., finishes its own production. The plant knits 64s worsted yarns into jersey outerwear fabrics. Modern machines and methods help the plant—

- Keep quality up
- Keep abreast of new developments

FAST COLORS, CAREFULLY MATCHED SHADES, and improved finishes help merchandise knitted worsted outerwear for Lebanon Knitting Mill, Inc.

The plant produces, among other lines, several styles of piece-dyed worsted fabrics. A typical number is knitted from 64s wool on circular latch-needle machines. The goods average 11 oz. per yd. at 54-in. finished width and are designed to go into a combination topcoat-raincoat garment.

To condense and stabilize the fabrics, they are first put in a fulling mill. The goods are saturated with a high-titre soap solution carrying 3 oz. per gal. of soda ash.

Fulling takes anywhere from 1 to 5 hrs., according to the fabric and the exact finished effect and width that is wanted. Fulling produces considerable cover for the surface of the fabric as well as closing up the construction.

Scour Prepares for Dyeing

After fulling, the pieces are loaded into special scouring becks that handle 18 to 20 pieces at one time. At the

FULLING is the first step in finishing Lebanon's worsted outerwear. Here pieces are being loaded into the fulling mill, where they will be shrunk to a predetermined length.

SCOURING follows fulling in becks made for the purpose. Heavy squeeze rolls at the front help remove the fulling soap. The soap is led off in the trough that is visible below the roll.

front of the beck, pneumatically loaded squeeze rolls are used to help the scouring action.

The scouring beck is filled with enough water to avoid dragging the goods against the bottom of the machine, and Igepal is added to keep the scour bath free of scum.

Scouring proceeds for 30 mins. at 100° F.; then fresh water is run in. Soapy liquor from the squeeze rolls is led off in a trough that can be slid into position for the rinsing operation.

The goods are rinsed for 30 mins. and are then ready for dyeing.

Lightfast Colors Are Used

Lebanon produces most of its shades with acid colors that are fast to light. In a normal dyeing, the goods are loaded into the beck and the bath is brought to 100 to 110° F. Then the dye formula, with 2 to 3% owg. of sulfuric or acetic acid, is added and the bath is brought to the boil and run 30 mins.

A patch is taken and assayed, and another 2 to 3% owg. of acid is added. Dyeing continues for 30 mins. at the boil, and the shade is checked again. At this point the color is usually pretty well exhausted; but if the shade requires correction, color is added.

Lebanon relies very little on dyebath assistants and prefers to depend on dyes and acids to do the job. Occasionally, some Igepal may be added if the surface of the dyebath shows scum.

When the shade is matched, the bath is cooled and washed by flooding the beck until the water runs completely free of color.

Lebanon has found that its worsted outerwear fabrics give better service and retain their shape better if they are finished with a durable water repellent.

The plant applies a silicone water repellent immediately after dyeing, in a fresh bath. The water repellent is added at the rate of 6% owg. to cold water, and the goods absorb the material in about 45 mins. The bath also contains 10% of catalyst based on the weight of the silicone resin. At first the bath is milky but becomes clear when the silicone is exhausted onto the goods.

The treated fabric is taken from the beck without rinsing and is hydroextracted. The goods are dried on stack dryers over spreaders of the proper size.

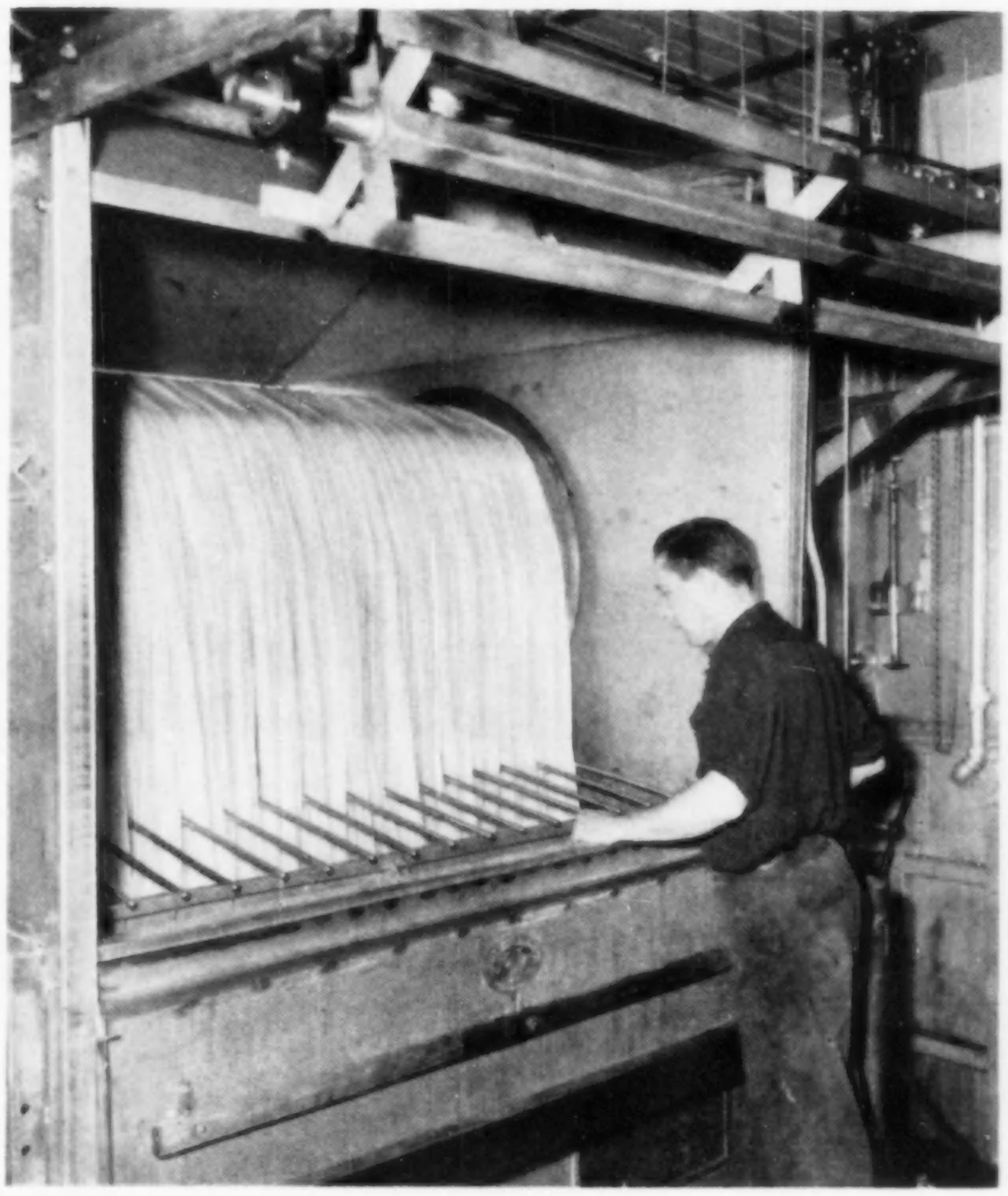
Air temperature in the stack dryer is 250° F., but the goods do not reach this temperature. The silicone-catalyst combination that is used to get the water-repellent effect will cure at low temperatures suitable to wool fabrics.

Decatizing Sets and Finishes

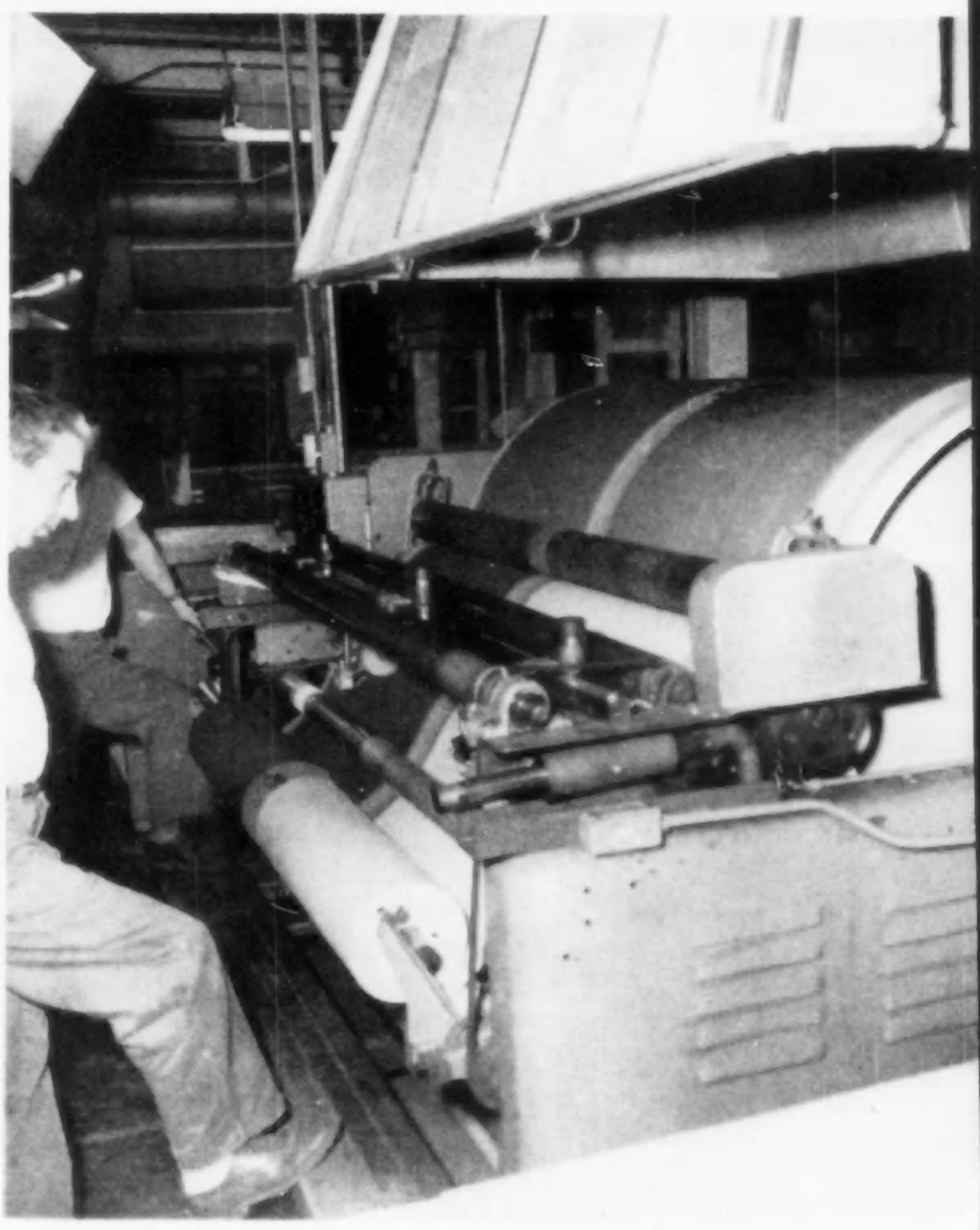
After drying, the goods are run through a semidecater to get the final finish. The process smooths the surface and conditions the fabric so that it will retain its dimensions after cutting.

The water repellency is checked after a 24-hr. layover period. A spray rating of 100 by AATCC Test Method 22-52 is necessary to meet Lebanon's standards of performance, and an 80 rating is expected after five drycleanings by Test Method CCC-T-191B with Stoddard solvent.

Lebanon thinks that the added cost of the finish is small compared to the improved performance of fabrics that are finished in this way.



DYEING AND WATERPROOFING are done in becks as separate operations. Acid dyes produce the necessary lightfastness for this class of goods. Silicone water repellents are applied by exhaustion.



DECATIZING conditions and finishes the goods. The finished fabric is being wound up directly off the blanket, a method that eliminates tension as far as possible.

VICTOR FINISHING STARCHES

FOR PURE FINISH

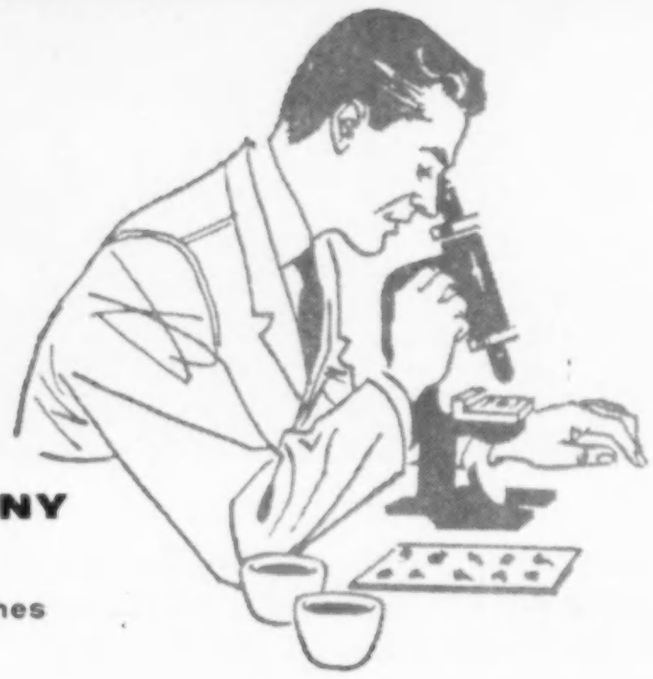
Victor P-40-U

SMOOTHER HAND
BRIGHTER SHADES AND WHITES

FOR BACKFILL

Victor 10-55

MORE MELLOW HAND
ALWAYS UNIFORM • CARRIES MORE TALC



Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1500 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

THE KEEVER STARCH COMPANY
GENERAL OFFICES-COLUMBUS, OHIO

Processors of corn, wheat and blended starches
for industry since 1898

← For more data, write this page number on Reader-Service card.

...with the SOLVAY Activated Hydrogen Peroxide Bleaching Process for Cotton

By using the SOLVAY Activated Hydrogen Peroxide Bleaching Process for Cotton, you can save up to 50% in bleaching chemical costs and, at the same time, gain a number of measurable advantages.

You get whiteness that equals or surpasses the results you're now getting. You increase purity, reduce color reversion tendencies and ash and metals content, and raise absorbency rates—even with moderately hard water —and without harm to the cloth.

This method has been thoroughly tested and is now in successful use in full-scale commercial operation. Application for a patent covering the SOLVAY Activated Hydrogen Peroxide Bleaching Process has been filed. The process is available to bleachers under a royalty-free license.

Write now! Full details of process, techniques, results!

Sodium Nitrite • Calcium Chloride • Chlorine • Caustic Soda • Caustic Potash Chloroform • Potassium Carbonate • Sodium Bicarbonate • Vinyl Chloride • Methyl Chloride • Ammonium Chloride • Methylene Chloride • Monochlorobenzene Soda Ash • Para-dichlorobenzene • Ortho-dichlorobenzene • Carbon Tetrachloride Ammonium Bicarbonate • Snowflake® Crystals • Aluminum Chloride • Cleaning Compounds • Hydrogen Peroxide • Mutual Chromium Chemicals

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N.Y.

☐ Please send me without cost your brochure, "SOLVAY Activated Hydrogen Peroxide Bleaching Process for Cotton."

☐ Have one of your representatives call to discuss it.

Name_____

Position_____

Company_____

Phone_____

Address_____

City_____ Zone____ State_____ BW-78

FINISHING

How NAPPERS Work — And How To Work Them

• Napping has gradually evolved from a hand operation that was hard to duplicate from piece to piece into a mechanized process that produces the same effect each time

• Here the author points out the important features of napper construction and how to obtain the best results

By **RICHARD C. FRANKLIN,** David Gessner Co.

THE ORIGIN OF NAPPING is somewhat obscure, but in various parts of Europe 150 years ago napping was a hand operation. The napper used the dried thistle-like growth called a teasel to raise the nap on the fabric. The napper used a plucking motion to raise the fibers of the goods. The teasel had a gentle action and would break off before it could cause damage to the fabric itself.

Although teasels found their way into power machinery with the advent of the industrial revolution, it was carding wire affixed to a napping machine that eventually took over the job of fiber raising for most purposes.

The planetary wire napper (Fig. 1) illustrates a standard single-acting napper and shows the relationship between the working rolls, the cylinder, the worker-roll drive, the cloth, and the cleaning-roll fancy. Variations of this action are evident in the double-acting napper (Fig. 2) and in the knit-goods napper (Fig. 3, p. 82).

How Single-Action Napper Works

The cylinder of a single-acting napper carries from 14 to 24 napper rolls that are usually 2½ to 3 ins. in diameter (see Fig. 1). The cylinder revolves on its axis at a constant speed in a direction from the front to the back of the machine.

The pile-worker rolls, mounted in the periphery of the cylinder, turn on their own axis. Controlled by a variable-speed drive, they turn in the direction opposite to the cylinder.

All pile-worker rolls are wound with card clothing, with the ends of the wire pointing in the same direction as the rotation of the cylinder. The cloth enters the machine at the front at a specified number of yards per minute, and travels in the direction of the cylinder's rotation. Thus the cylinder carries the pile-worker rolls themselves directly into the cloth, but the reverse rotation of the worker rolls takes the wire points away from the cloth.

By regulating the variable-speed drive, a rolling-contact condition can be established between the points of the wire and the cloth to be napped. The rolling-contact condition is known as zero energy. When the speed of rotation of these worker rolls on their axis is reduced, napping begins.

This situation is called positive energy because the points of wire now are traveling at a little faster linear speed than the cloth and consequently are raising the fibers of the cloth. If the cloth speed is changed, then the worker-roll drive has to be adjusted to maintain the same relative energy.

Contact Rolls Prevent Damage

If the cloth were allowed to hug the rolls on a single-acting napper with the wire ends all pointing in the same direction, the cloth would be torn and ripped the minute napping began; so the cloth is fed over contact rolls to permit from two to four tangent contacts on the cylinder.

The worker rolls of the single-acting napper attack the filling of the cloth from one side only, which tends to raise the fibers out of the cloth with as much loft as possible.

The double-acting napper has begun to take the place of the single-acting napper because it is more versatile in its raising action. Basically, the two machines are similar but have certain differences.

For example, in an 18-roll double-acting napper, nine rolls are driven from one variable-speed drive and the other nine rolls are driven from another variable-speed drive.

Two variable-speed drives are necessary on the double-acting machine because one set of worker rolls is wound with wire clothing pointing in one direction, while the other set of rolls is wound with the wire clothing pointing in the opposite direction.

The action of the pile-worker rolls is the same as the pile-worker rolls in the single-acting napper, that is, when their rotation on their own axis is slowed down, they begin to pluck the fibers from the cloth.

The other set of rolls is known as the counterpile-worker rolls. The rotation of the cylinder nullifies the plucking action of the counterpile-worker rolls. To restore this action, the speed of these counterpile-worker rolls on their own axis must be increased.

Worker Rolls Support Cloth

Another difference is that the cloth is not held against the cylinder by contact rolls, as in the single-acting napper, but lies directly on or hugs the napping rolls. The introduction of the counterpile action makes it possible to eliminate the contact rolls of the single-acting napper.

The pile- and counterpile-worker rolls create a balanced nap when they are napping into the cloth with approximately the same energy, which usually produces the best napping results. The versatile action of the double-acting napper allows greater energy to be exerted by either the pileworker rolls or the counterpile-worker rolls.

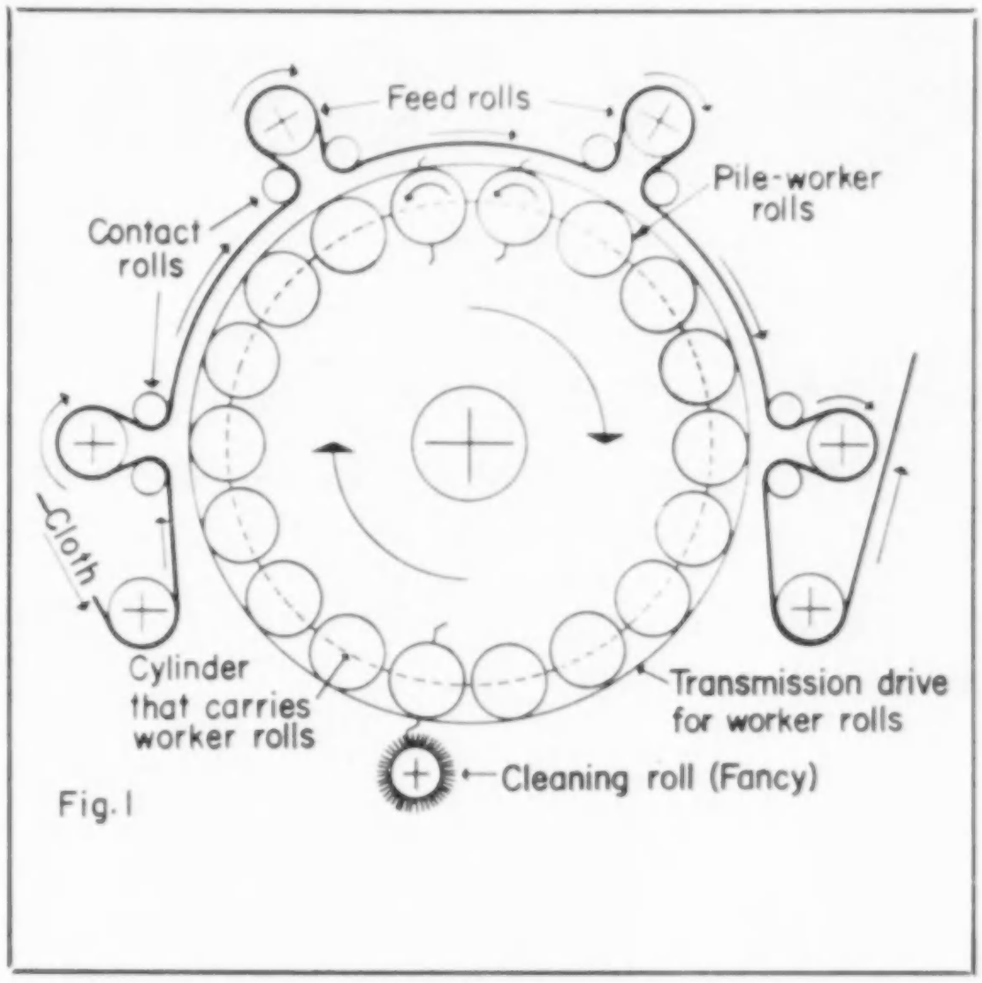


Fig. 1

IN A SINGLE-ACTING NAPPER, all worker rolls revolve in the same direction and the hooks of the wire clothing point opposite to the direction of rotation of the worker rolls.

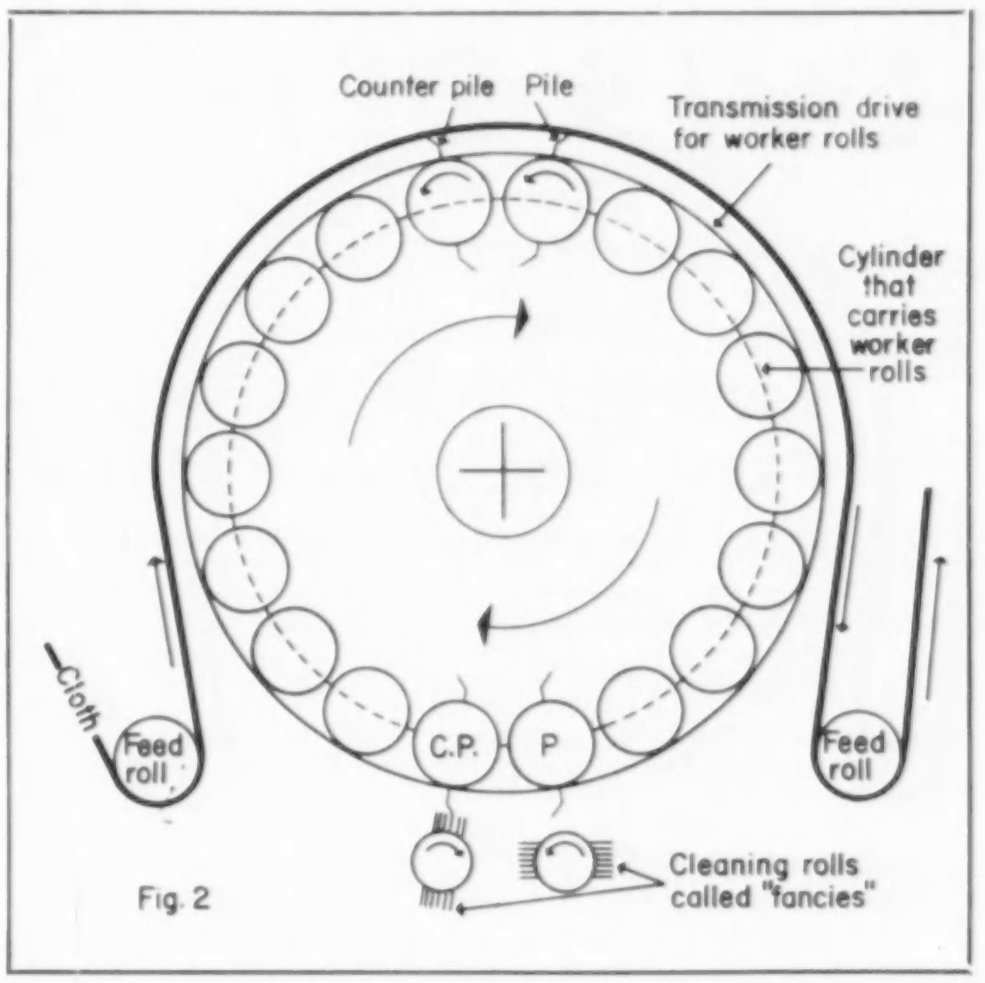


Fig. 2

IN A DOUBLE-ACTING NAPPER, alternate worker rolls are driven separately and the clothing is alternately pointed toward and away from the direction of the cloth.

It is by increasing or decreasing this energy between the wire points and the cloth that different napping results are obtained. In general, more pile energy produces a loftier nap, while more counterpile energy produces a shorter, thicker nap.

As a third difference and in contrast to the single-acting machine, the wire of the double-acting napper attacks the filling of the fabric from both sides.

All this description of the action of the pile-worker rolls and the counterpile-worker rolls has been in terms of positive energy, which means that the points of the wire are being driven somewhat faster, more feet per minute, than the fabric. When the speed of the rotation of the worker rolls is regulated so that a rolling-contact condition exists, the action is known as "tucking" or "felting."

How Felting Is Done

When the nap of the fabric is lofty, as in a blanket, it is necessary to regulate the speed of the worker rolls so that their peripheral speed in feet per minute is slower than the cloth speed in feet per minute to produce this tucking or felting action. The action of the wire clothing in this case is like a needle loom. It pushes the raised fibers back into the cloth and makes a smooth finish.

While felting or tucking can now be done on a double-acting napper, this action was once confined to a machine —a felter—made solely for the purpose of felting. In a felter, the cylinder rotates toward the front of the machine. All the worker rolls are driven from one variable-speed drive, wound with the points of wire pointing in the same direction as that in which the cloth travels.

While the cylinder carries the points away from the cloth, the rotation of the worker rolls on their own axis carries the points into the cloth. The felting action is produced when the worker-roll variable-speed drive is adjusted so that the peripheral speed of the worker rolls is lower than the cloth speed in feet per minute.

However, this machine was exclusively for felting, not for napping, and is therefore no longer popular.

The knit-goods napper differs from the standard double-acting napper in that the cylinder that carries the worker rolls rotates toward the front of the machine (Fig. 3) or against the direction of the cloth.

Half of the worker rolls are driven from one variable-speed drive and the other half from another variable speed drive. One set of worker rolls, sometimes called traveler rolls, is wound with straight wire, and the other set with hooked wire.

The hooked wire gives a counterpile action in napping; but because of the way it is wound on the worker rolls, it also urges the cloth through the machine. This action helps establish the right tension for napping loop fabrics.

In order to nap efficiently, it is necessary to control and accurately indicate (1) cloth speed, (2) cloth tension, (3) pile energy, and (4) counterpile energy—all independently.

The most important part of a napping machine is the variable-speed drive that controls the revolutions per minute of the worker rolls. There have been many devices used for controlling this speed. One of them, the cone-pulley drive using flat leather belts, has been adopted by a number of napper manufacturers as a method of energy control.

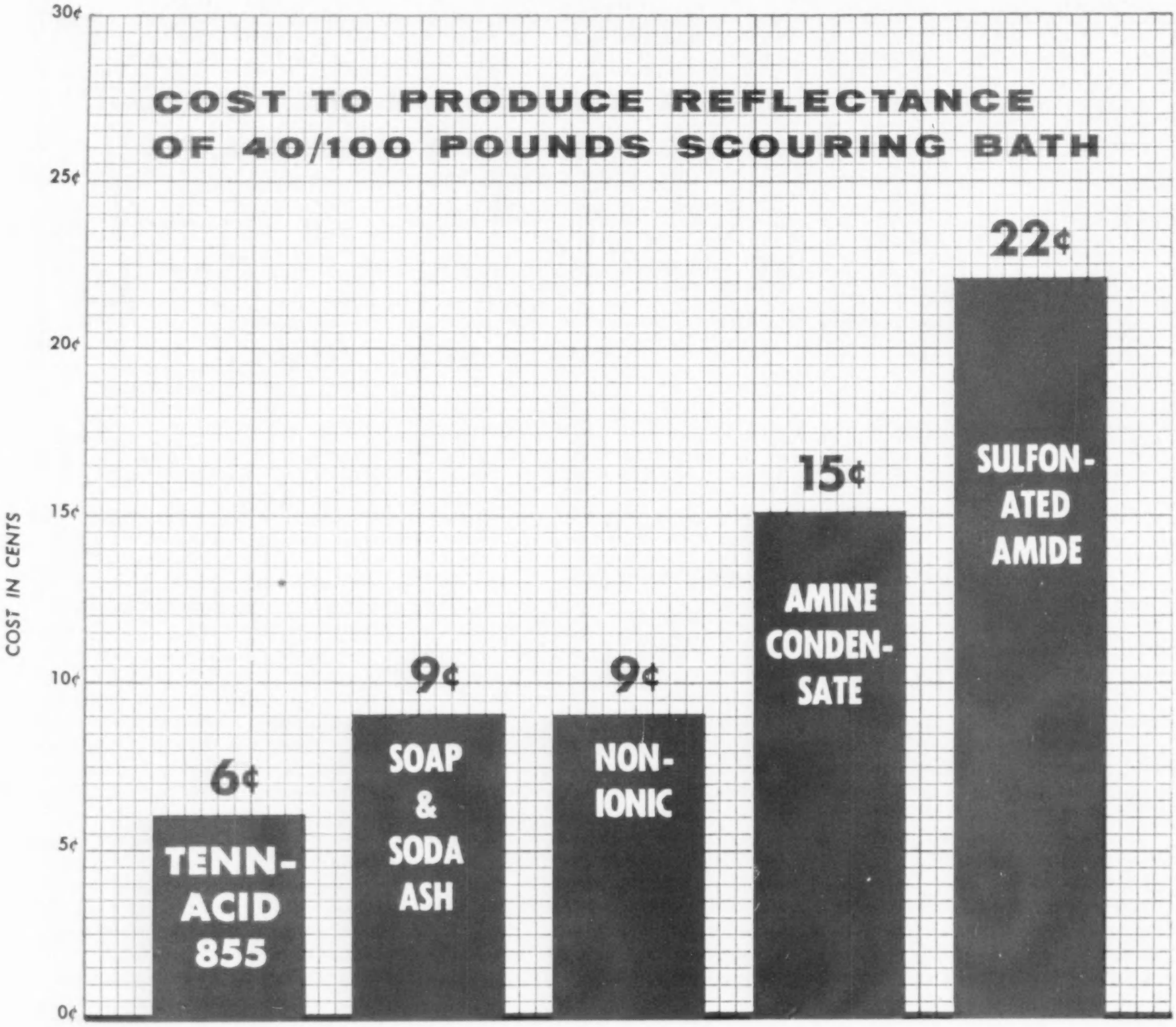
Change gears are also provided to broaden the energy range when needed. The expanding-pulley drive for energy control utilizes a flat belt and has the same characteristics as the cone-pulley drive.

Another variation in the development of energy drives has been the use of the double variable-pitch pulley drive. This type of drive usually does not require change gears. Another type of drive is the infinitely variable positive drive, which also produces a broad energy range.

It should be noted also that all these worker-roll drives have been coupled with either flat-belt-, V-belt-, or gear-driven worker rolls. The idea behind all of these drives is to effect an energy control mechanism that will produce the most efficient napping. Another type of energy drive uses hydraulic fluid to energize the worker rolls.

CONTINUED ON PAGE 82

TENN-ACID 855
CUTS DETERGENCY COSTS!



Comprehensive tests using the triethanolamine salt of **TENN-ACID 855** on a standard printed cotton soiled test fabric show a detergent cost as low as 6¢ to produce a reflectance of 40 per 100 pounds scouring bath. Competitive products cost more to produce equivalent Soil Removal.

CONDITIONS OF TEST → Wash 30 minutes in Launder-O-meter at 160° Fahrenheit, rinse, air dry—check reflectance with reflectometer.

MARKETING RESEARCH AND DEVELOPMENT DEPARTMENT

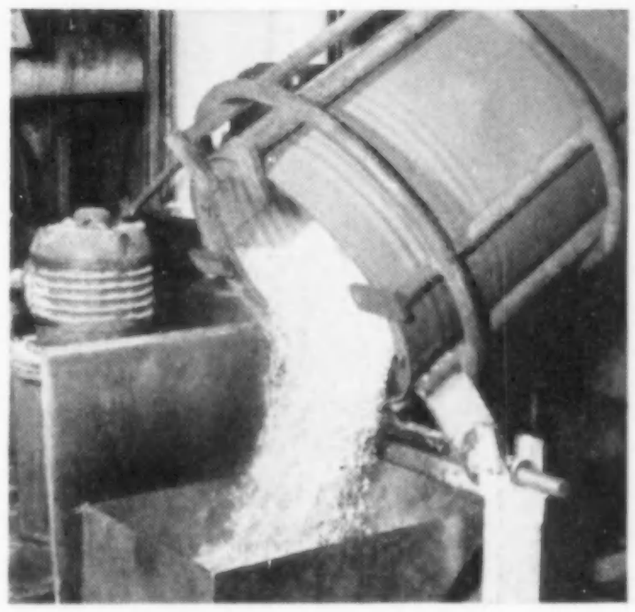
TENNESSEE CORPORATION

1330 West Peachtree—Suite 500 Atlanta, Ga. Phone: TRinity 5-6616

BRIEFS

on a new dewaxing process for cotton goods...a new drum for sulfides ...a fast way to choose between 50% and 73% liquid caustic soda

New drum for sulfides empties twice as fast



Here's a new 400-pound drum which you can empty twice as fast as previous designs whether you scoop, pour, or shovel.

The drum costs nothing extra and is now standard for both Hooker sodium sulfide and sodium sulfhydrate.

The top opening is a full 18 inches across—four inches wider and 65% greater in pouring area than the previous drum.

This new drum also holds 50 pounds more chemical. With it you can lower handling costs by as much as 14%. You also reduce the storage space required per pound of sulfide. Last, but not least, shipping costs per pound of chemical are lower.

Like the old Hooker drum, this one is designed to preserve product purity. Its special lacquer lining prevents iron pick up during handling and storage. It has six lugs to give a tight seal and reseal. And, we use only brand new drums, never re-fill.

Of course, what goes into the drum is most important. Here are some of our specs:

Sodium sulfide Na_2S—60 to 62%. NaCl—1.5% max. Fe—8 ppm max. Other metals—1 ppm max. Water of crystallization—35% min.

Sodium sulfhydrate NaSH—70 to 72% max. Na_2S—2.5% max. NaCl—0.8% max. Fe—5 ppm max. Other metals—1 ppm max. Water of crystallization—28% max. to 26% min.

The coupon offers technical data sheets on both chemicals for a more complete analysis.

Dewax cotton in a matter of minutes

A British firm recently took out a patent in this country for a solvent-based dewaxing process. It is reported that with this process you can produce absorbent, well-bottomed cotton goods in a matter of minutes.

You begin by dewaxing the fabric in hot *trichlorethylene* inside enclosed vessels. It takes only 30 to 60 seconds' exposure in two baths to come up with goods which hold as little as 0.1% residual wax.

When these baths are finished you flash off the solvent and then reuse the vaporized trichlorethylene.

As a leading producer of trichlorethylene, we are naturally interested in this process. We shall be glad to put you in touch with the patent holder and work with you in setting up a trichlorethylene purchasing and handling program.

We can offer a number of different grades of trichlorethylene for you to choose from and we'll deliver in quantities to satisfy your process and storage requirements.

If you'd like to know a little more about trichlorethylene itself, check the coupon for a technical data sheet.

50% or 73% caustic soda which is the better buy?

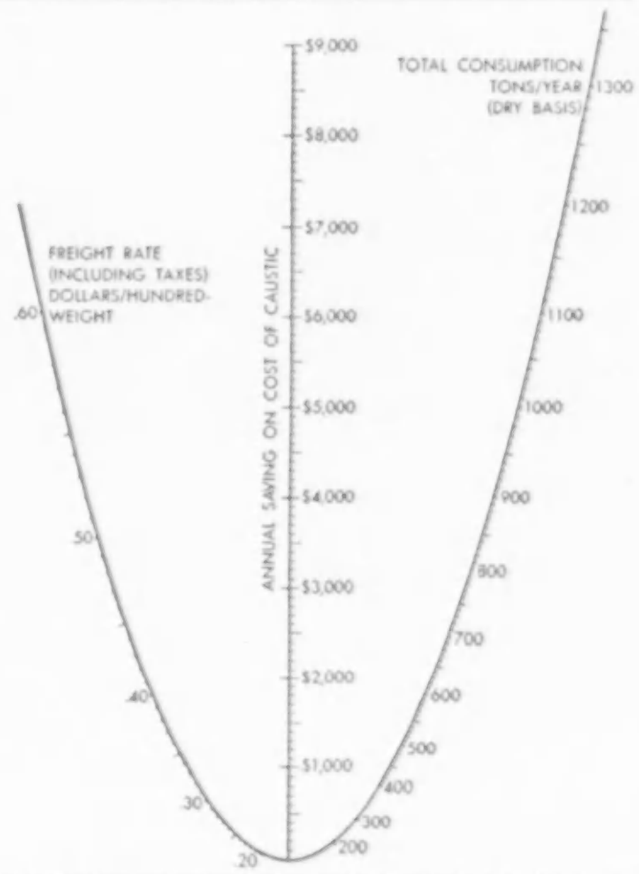
Use this nomograph to find out quickly if you'd save money by switching to 73% liquid caustic soda.

Draw a line from your freight rate to your annual consumption. Any savings will show where you cross the center line.

You'll have to figure in annual depreciation on dilution equipment... we can advise you on this cost.

If you think there's a saving here for you, call in a Hooker man for a complete and more accurate analysis.

And, for more facts like these on buying and using caustic soda, check the coupon for our *Caustic Soda Buyer's Guide*.



For more information, check here and mail with your name, title, and company address.

- ☐ Trichlorethylene
- ☐ Sodium Sulfhydrate
- ☐ Sodium Sulfide
- ☐ Caustic Soda Buyer's Guide

Other Hooker Chemicals:

- ☐ Carbonate of Potash
- ☐ Chlorine
- ☐ Oxalic Acid

When requesting samples, please use business letterhead to speed delivery.

HOOKER CHEMICAL CORPORATION
1707 FORTY-SEVENTH ST., NIAGARA FALLS, N. Y.

Sales Offices: Chicago Los Angeles New York Niagara Falls Philadelphia Tacoma Worcester, Mass.
In Canada: Hooker Chemicals Limited, North Vancouver, B. C.

HOOKER CHEMICALS PLASTICS

For more data, write this page number on Reader-Service card. →

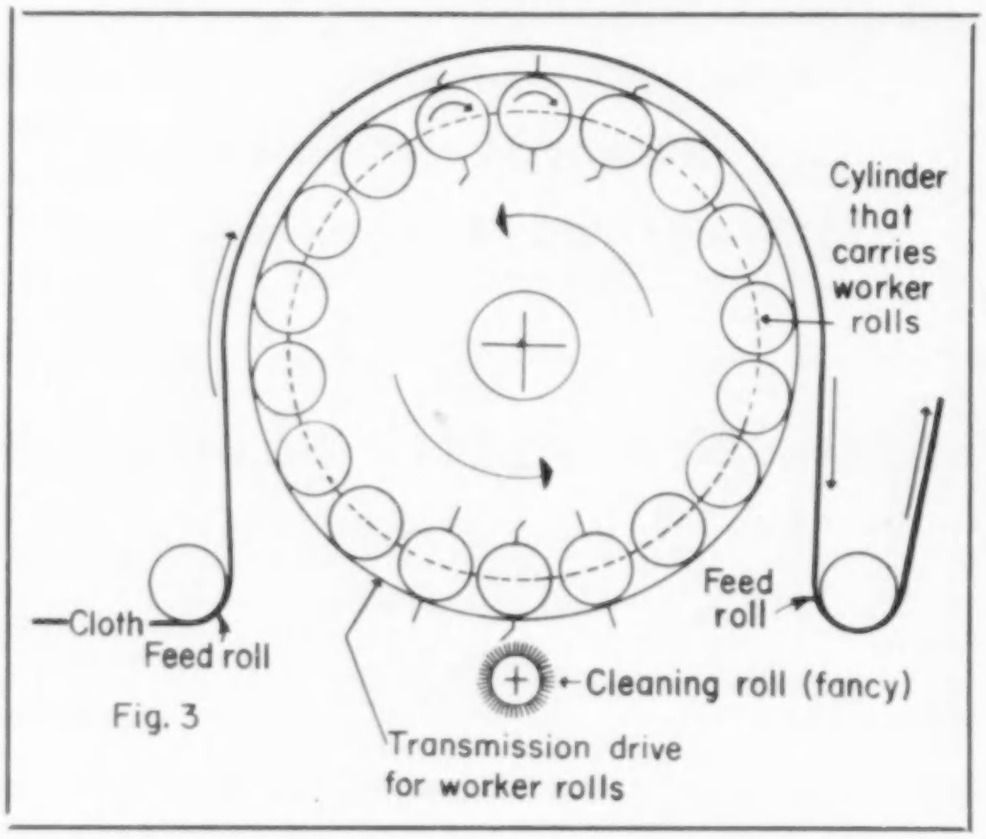


Fig. 3

KNIT-GOODS NAPPERS feature straight and hooked wire on alternate rolls, which are separately driven. Also, the direction of rotation of the rolls is the same as that of the fabric.

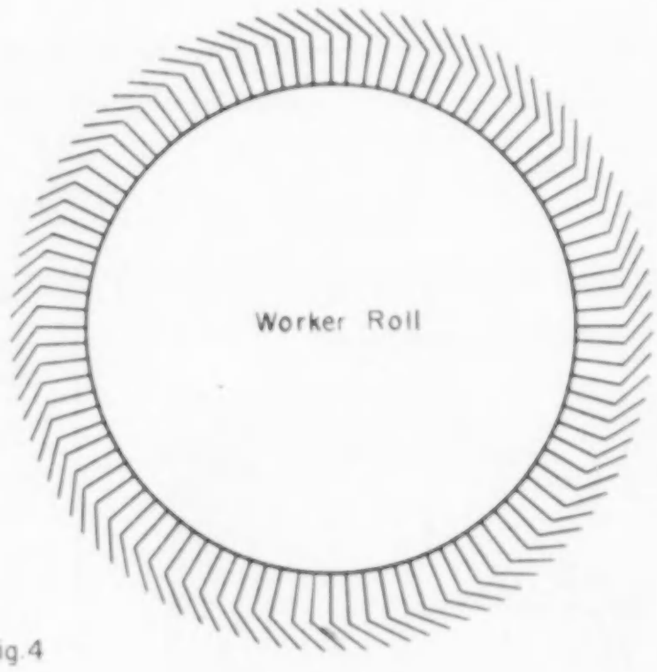


Fig. 4

WORKER ROLLS are covered spirally with strips of heavy fabric in which steel wires are embedded. Points must be kept sharp and even.

The hydraulic drive, combined with gear-driven worker rolls, provides excellent control of napping variables. The pressure gauges indicate the torque of the worker rolls. The tachometers indicate the speed of the worker rolls and show when enough torque is being transmitted to allow the napper rolls to work in the optimum revolutions-per-minute range for different fabrics.

A hydraulic-pressure-regulated feed-roll system insures the carrying of the cloth through the machine at proper tension. Varying the speed of the worker rolls by varying the torque makes it possible to retain all the advantages of both the belt-driven and gear-driven worker-roll machines.

Because the wire clothing on the worker rolls of a napper performs a raising action with respect to the cloth or fibers to be raised (see Fig. 4), the speed at which the wire is forced into the fibers is a very important factor in napping. If the wire is forced too fast, it rips and tears the fibers; and if it is forced too slowly, no napping results.

For easy-to-nap fabrics, the pressure settings are low. For harder-to-nap fabrics, the pressure settings are higher to maintain the optimum raising speed of the worker rolls.

The relative speed between the points of wire and the cloth to be napped is usually fairly small when compared to the cloth speed or the cylinder speed. This relative speed for most fiber raising, for example, usually doesn't exceed 30 to 40 ft. per min. Because of these relatively small surface-speed changes, the energy applied to the worker rolls is extremely important for most efficient napping.

Wire Clothing Must Be Right

Certain qualities of the wire clothing wound on the worker rolls are especially important:

1. The wire must be set into its backing evenly and must have a sharp needle point.

2. The wire must be of even height.

3. The wire must be strong enough to withstand the torque developed with hard-to-nap fabrics.

Corrosive salts or other chemicals, if present in cloth to be wet-napped, are destructive to regular wire. Stainless-steel wire is resistant to some, though not all, corrosive chemicals and is somewhat softer than steel wire.

Care should be exercised to keep the points of the wire sharp. The wire may be sharpened directly on the roll by a special grinding machine made for that purpose.

Fabrics to be napped are usually designed for that process, including the selection of the raw stock, the twist of the yarn, and the layout of the fabric. The infinite variations of these factors go beyond the scope of this article. However, the general procedure for setting up napping routines could be outlined something like the following:

1. Breaking runs. The first one or two runs on a napper are usually the most important in developing the desired nap. In making these runs, it is necessary to use enough energy to make the worker rolls turn against the cloth with the most efficient raising speed.

2. The intermediate or raising runs usually are used to develop the type of nap desired. By using more counter-pile energy than pile energy, a shorter, thicker nap is usually produced. By using more pile energy than counter-pile energy, a long, loftier nap is produced. By varying these two energies, different gradations of these effects can be produced.

3. The smoothing or finishing runs usually discipline the raised fibers by either further limited raising action or felting or tucking action. Different combinations of these actions can be used to produce different effects.

There are a few common-sense ideas that will aid in napping:

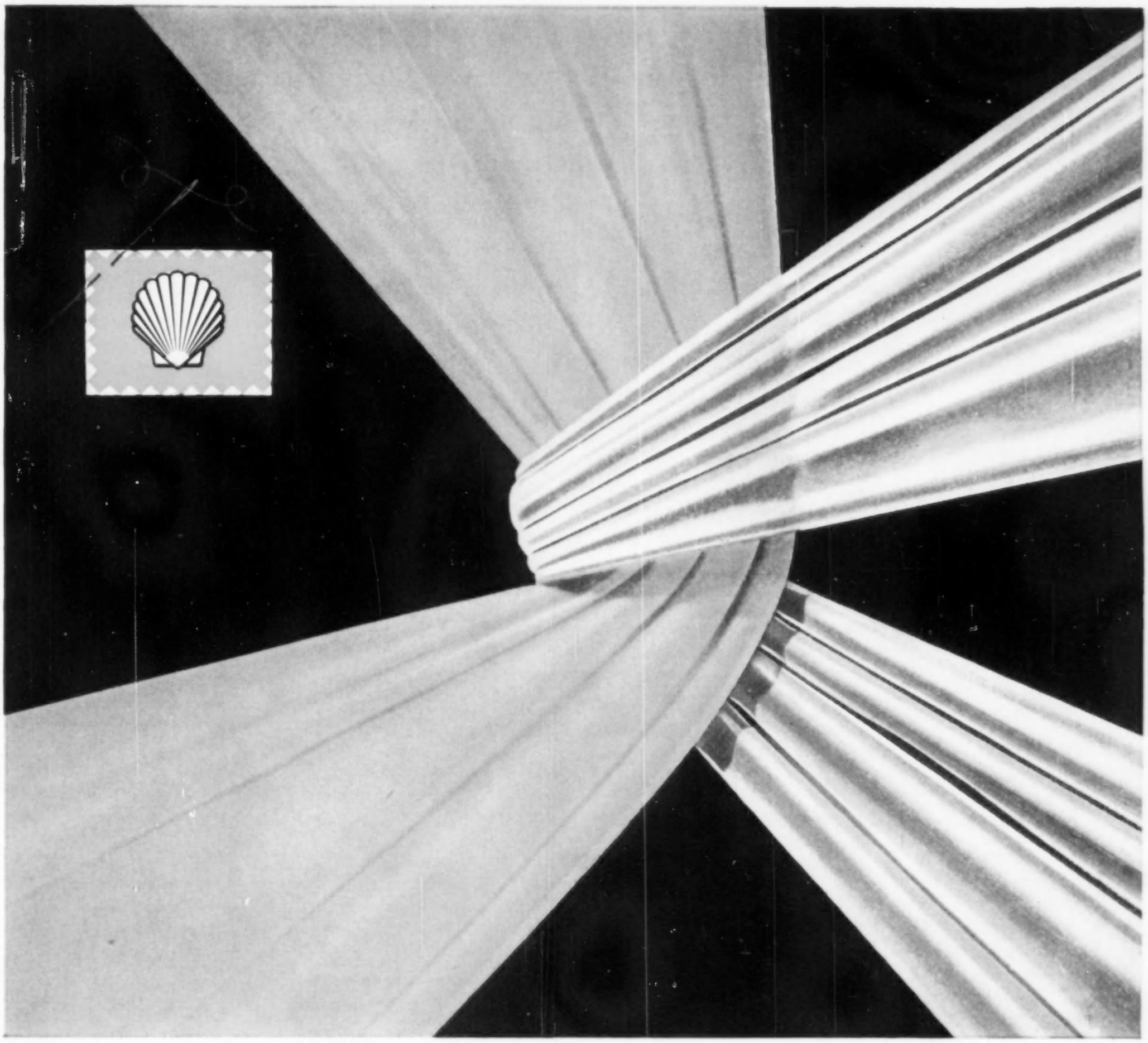
1. The fabric to be napped should be flat and free from wrinkles.

2. The fabric should be stressed evenly from selvage to selvage.

3. The use of appropriate softeners on some fabrics is advisable.

4. A collecting system to keep the flock (lint) from flying should be installed. This collecting system is especially important in napping man-made fibers, blankets, and cottons.

5. The working width of the napping machine should not be too much greater than the width of the cloth.



For clear whites...brighter vat colors

H_2O_2 from SHELL

Hydrogen peroxide can serve you well and economically both as a bleach and an oxidizer for vat colors.

In continuous bleaching operations, hydrogen peroxide gives excellent uniformity and clear whites with minimum bleaching time.

Used as an oxidizer in vat dyeing, hydrogen peroxide insures bright colors and excellent fastness, with reduced rinsing time.

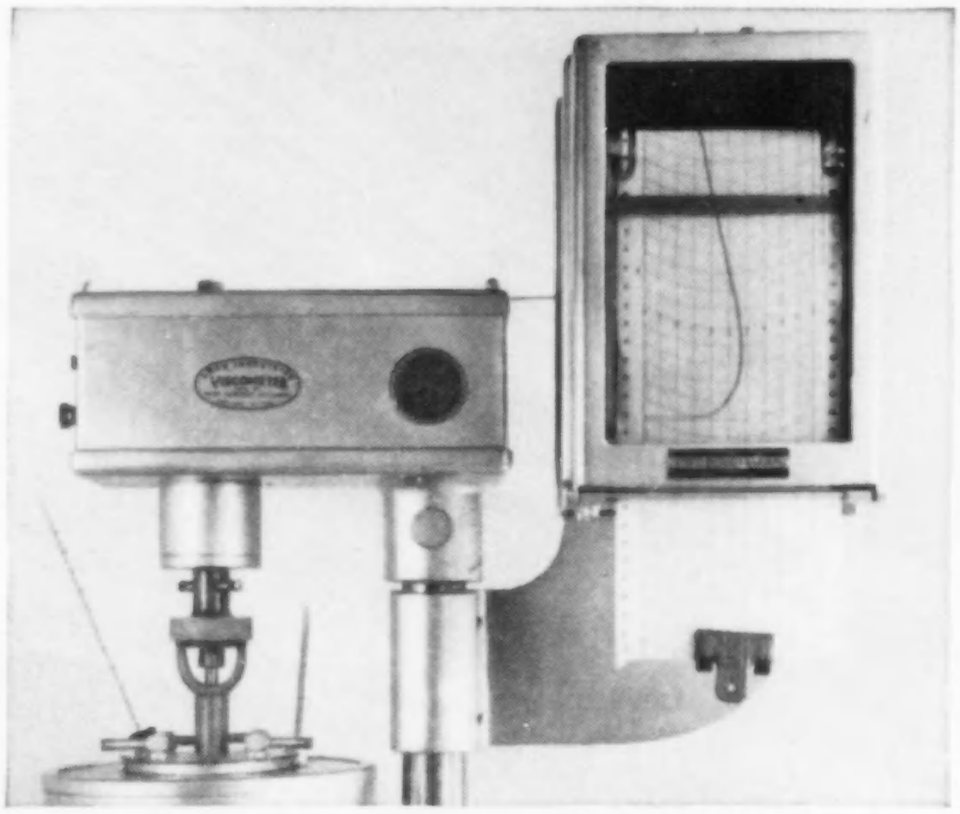
Write to the Shell Chemical district office nearest you for a sample of Shell's hydrogen peroxide.

SHELL CHEMICAL CORPORATION

CHEMICAL SALES DIVISION

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis

Quick Course in Starch and Dextrin Buying



1. How does it rate on stability? Viscosity stability is a major factor in warp sizing, particularly under high-temperature conditions—and is essential for uniform added weight. This characteristic can be accurately evaluated with a Corn Industries Research Foundation Viscometer.

There are nearly 1000 different corn starches and dextrins on the market. Each one does a job. How can you be sure you're choosing the right one? The correct choice depends on many factors. Here's what to look for—how to compare various characteristics—and

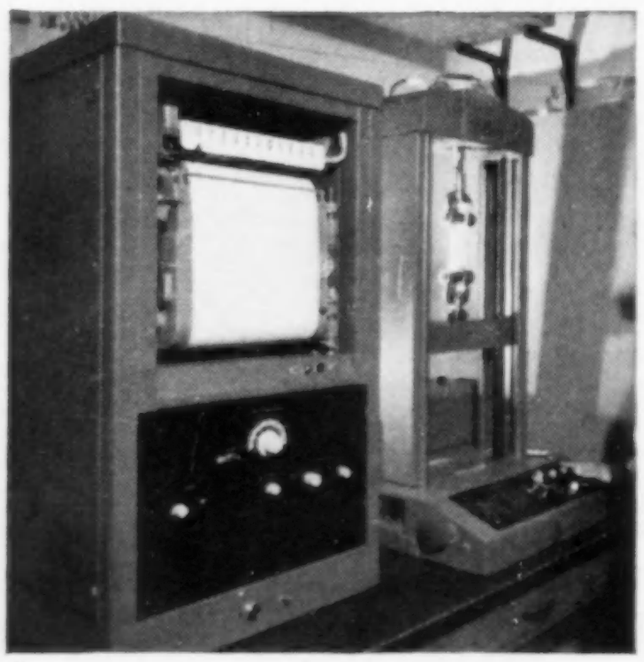
how to select the right starch or dextrin to do the job right!

Here are six of the more important tests for selecting the *right* starch or dextrin.

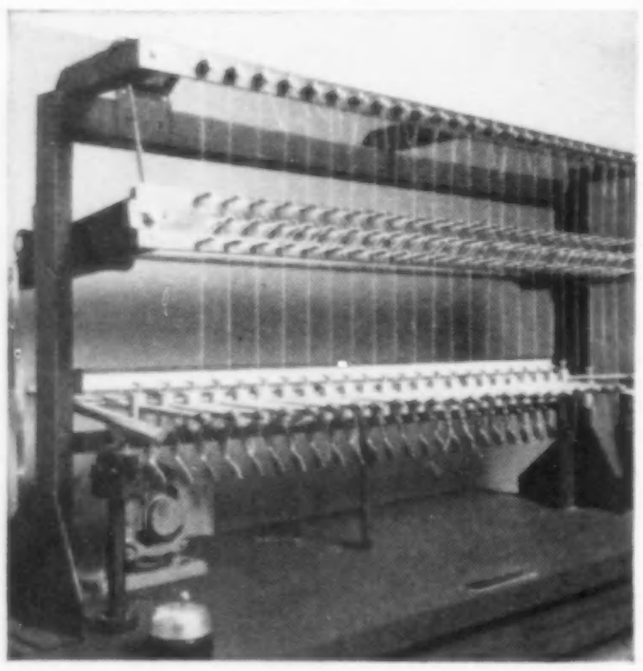
But whether you use these or other methods of testing, remember this: Staley's never-ending research and quality-control laboratories subject every type of starches, gums, dextrins to the most critical tests—not only the tests pictured here, but other demanding tests as well.

The result? A complete line of custom-made, uniform-quality products for sizing and finishing that meet your most exacting specifications.

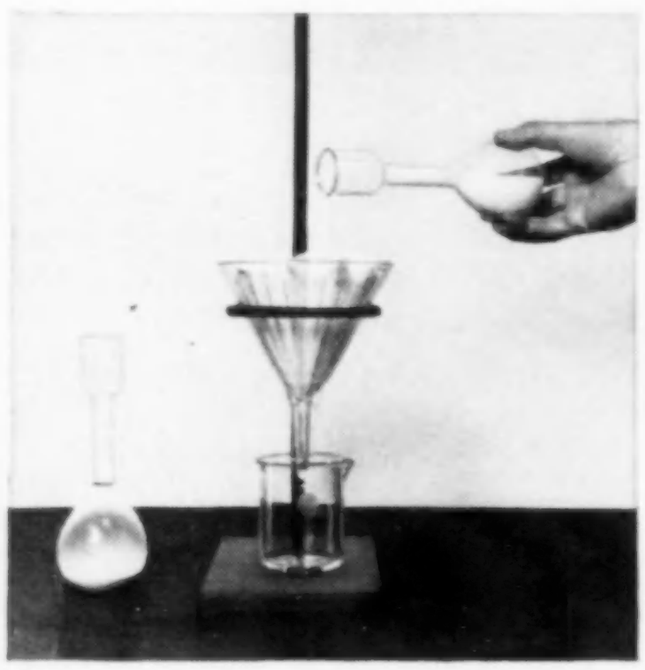
2. Is it the right viscosity? Proper size viscosity is important in almost every application and is a key factor in determining add-on for optimum weaving. The Scott Cup is one of the quickest, simplest, most efficient methods of checking viscosity.



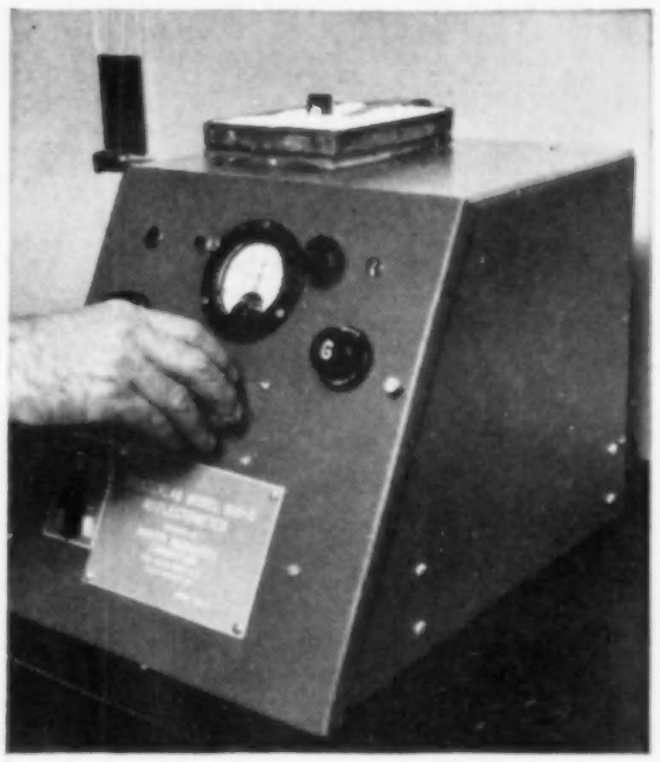
3. What about tensile strength? Important too, is the effect of any treatment on the strength of yarns, fabrics. Tensile strength—ranging from delicate yarns to coarse, durable fabrics—may be determined with the "Instron" Tensile Tester.



4. How does it rate on abrasion resistance? The ability of a sized yarn to resist abrasion during the weaving operation must be carefully evaluated in choosing a starch. The "Walker" Abrader is widely used in this test.



5. Does it have the right solubility? Another important consideration in selecting the *right* dextrin is water solubility. This can be easily determined through a simple analytical procedure utilizing filtration and evaporation.



6. How does it rate on color? Generally, dextrins should be of good whiteness when they are to be used in finishing. Precise determinations of color present in dextrins are possible with the "Hunter" Colorimeter, shown above.

A. E. STALEY MFG. CO.
DECATUR, ILLINOIS
Atlanta • Boston • Chicago • Cleveland • Kansas City
New York • Philadelphia • San Francisco • St. Louis

For versatile performance wherever fine fabrics need the right treatment

. . . here's a trio of hard working Swift's Soaps. They fill the bill over a wide titer range to give sure, skilled and *experienced* wet finishing service. They're popular, preferred and on *command performance* for dyeing, fulling and scouring—because there's one to serve most every finishing need—regardless of water temperatures and other variables.

They are on immediate call from key-located Swift & Company plants and offices throughout the country.
Write for details or for an economical trial order on these or other *Swift quality* soap or detergent products today: SWIFT & COMPANY Soap Department, 4115 Packers Ave., Chicago 9, Illinois.

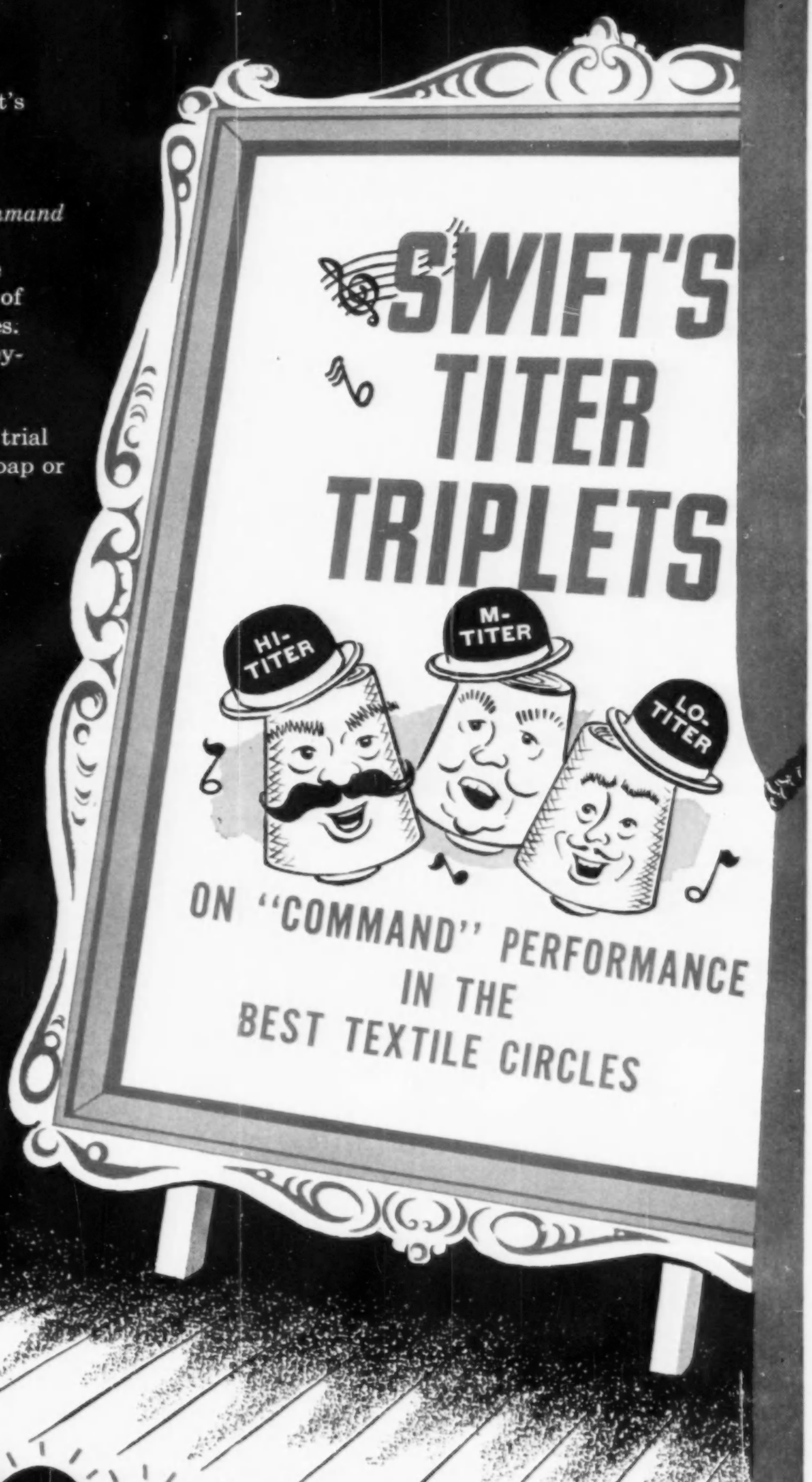
WHITE RIBBON (41°—42° C) A neutral high titer, all-purpose soap particularly recommended for high temperature sudsing. For wool, cotton or synthetic processing. Powder—92% anhydrous soap; Flakes —88% anhydrous soap.

T-25 (25°—28° C) Excellent for low titer fulling or for scouring fine or heavy worsteds. A neutral medium titer, red oil blended soap in flake form. Has 92% actual soap content.

VERTEX FLAKES (10°—12° C) Produced from highest grade red oil. Highly soluble in low temperature operations. Excellent for woolens. Provides good scouring at reduced steam costs. 94% actual soap content.

* * *

SWIFT'S SOLAR DETERGENTS are available in liquid or granule form. A wise choice for quick, uniform wetting or as a leveling agent in wool dye operations. 40% active anionic Sodium Alkylaryl Sulfonate.



Check your Titer Range:

☐ White Ribbon Chips	41—42°C
☐ Mohawk Chips	39—40°C
☐ Wool Flakes	38—39°C
☐ Gold Medal Flakes	30—33°C
☐ T-25 Flakes	25—28°C
☐ Vertex Flakes	10—12°C

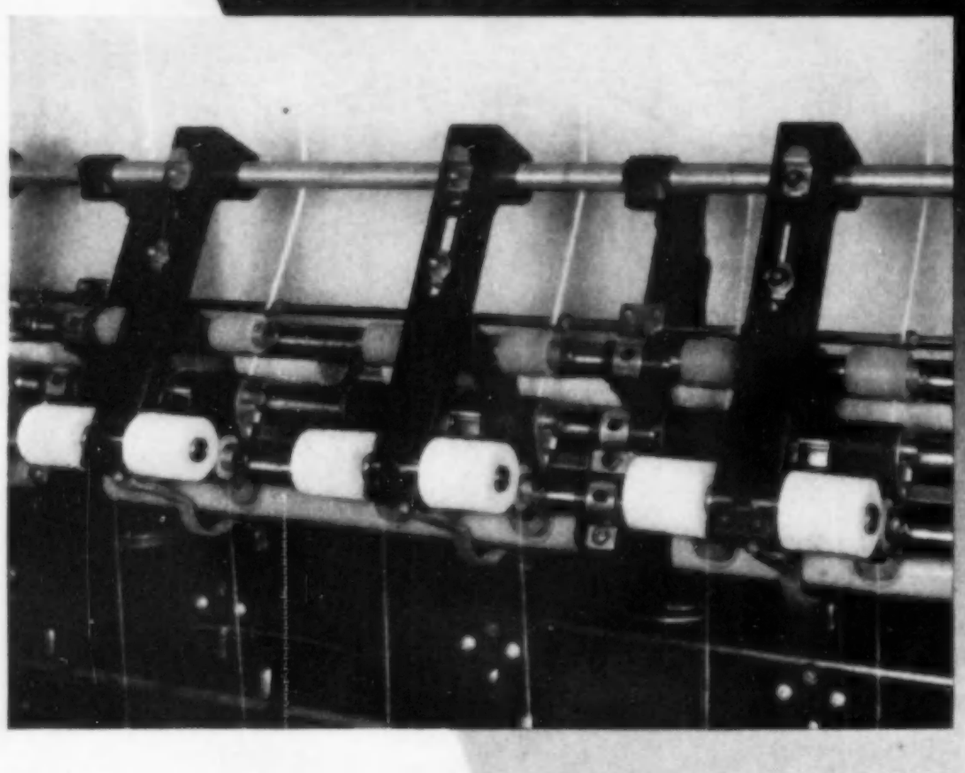
Swift
103rd YEAR

To Serve Your Industry Better

NEW-REVOLUTIONARY

SACO-LOWELL SPONGE RUBBER CLEARERS

For Most Roving & Spinning



Offer 5 Big Advantages That Save Time, Save Labor, Save Your Money!!

1. Waste is completely removed in seconds with a single motion of the hand.
2. They outlive cloth covered clearers many times.
3. Eliminate necessity of a full-time picking crew.
4. Does away with hand tool and power driven mechanical clearer picking methods.
5. Are applied directly over steel shafts — no wooden bosses are necessary.

There can be no question, these new Saco Lowell Sponge Rubber Clearers are the low cost answer to the excessive clearer waste caused by the low grade cotton crop which is creating abnormally high fibre breakage. They are also particularly desirable for mills spinning coarse carded stocks or synthetics and blends which build-up clearer waste quickly.

In addition to doing a better job, they last longer and cost substantially less than old fashioned, cloth covered clearers.

Obtain the full story on this "LATEST DEVELOPMENT OF SACO-LOWELL RESEARCH" from the nearest Saco Lowell Sales Office.

SACO-LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. Sales Offices: CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

POINTERS FOR SUPERVISORS

What You Do Versus What You Say

• People often make liars out of themselves by talking one way and acting another way. If your employees sometimes misunderstand you, maybe it's because your actions are conflicting with your words.

By **S. G. WILLIAMS,** Management Consultant

"'Take your time,' he said. 'Tell me the whole story.'

"Meanwhile, he fidgeted and looked at his watch every few minutes. Did I tell him the whole story? Obviously not. His actions carried a lot more truth than his words; so I short-cut to my conclusion—leaving out all the reasons for it—and finished up in a hurry.

"Of course, since he hadn't heard the full report, he turned the idea down. The company probably lost several thousand dollars because of it."

Maybe the company lost money and maybe it didn't. That's not the point here. What is important is the way this simple situation illustrates the problem we want to highlight: how people (and perhaps you) make liars out of themselves by talking one way and acting another way.

The classic (or cartoon) example of this phenomenon is the executive who walks through the office, golf bag in hand, while he says,

"If everyone will put his shoulder to the wheel, we can get that rush order out on time."

Words Whisper, Actions Shout

First step toward control of this unfortunate unmasking that happens a dozen times a day in the lives of many supervisors is to recognize that behavior does speak, that actions do communicate. The reader will be reminded of the old saw, "Actions speak louder than words." Unhappily, that adage has meant to most people: "Do it; don't just say you'll do it," or "Promises, promises, nothing but promises."

Our concern is with an entirely different matter. Yet the same old saying applies. When your lips say one thing and your behavior says another thing, your behavior will often have more impact than your speech: "Actions speak louder than words."

Each time you walk through your department, even though you may do it in perfect silence, still you "say" something to every employee who sees you:

"The boss is in a bad mood today."

"He's in a hurry. Better not ask him to look at my machine right now."

"The boss seems to be worried."

"Mr. Jones didn't speak to me when he went by. I hope I haven't done anything wrong."

"There he goes, off to raise cain with the shipping department again, I'll bet."

"Darn! He's leaving, just when I wanted to go in and talk to him."

"Oh, oh! Better get on the ball. Here comes the boss."

"Wonder if that look means he's worried about his job."

In fact, as "the boss" you are in a position where every action of yours is important to the people who report to you. Every move you make conveys some meaning to your employees—not necessarily the correct meaning, but some meaning.

If this fact of what the professors call "nonverbal communication" is fully accepted, we are ready to move on to the second step.

In a Conflict, Actions Win

We have looked at behavior alone and have seen that it conveys meaning. Now let's look at behavior and words when they appear together.

An overseer we know is constantly harping about good housekeeping, pointing out to his people all the advantages of spotless aisles, work tables, and machines. His own office, however, is a regular rat's nest. Can you guess what his section looks like and whether his people follow his words or his example?

A group of executives, meeting in Charlotte to consider these matters, engaged in a small experiment. Using exactly the same words, "Miss Brown, will you please come in and take a letter," they said the words in such a way that:

(1) Miss Brown was pleased.

(2) Miss Brown was angered.

(3) Miss Brown was threatened, or had her security threatened.

Difficult? Not at all. As a matter of fact, most of us are doing this type of thing every working day. Try the experiment yourself.

Say the words impatiently. Say them resignedly. Say them very deliberately. Say them with a smile in your voice, turning on the old charm. Then turn around and say them like you have indigestion. The same words sound different—and give Miss Brown a different impression—with each change in your manner of speaking. A little practice with this principle soon makes a pretty convincing argument for the fact that words are frequently the least important part of a communication.

For further evidence, imagine this scene with your wife. At home you receive a perfumed envelope. It contains simply a hurriedly written note about a change in schedule:

"Dear Mr. Andrews:

"Mr. Gordon phoned me at home and asked me to let you know that the Monday meeting will be at 2:30 p.m. instead of 9:30 a.m.

"Lucy"

Does your wife pay more attention to the perfume or the message? It's a safe bet that she has forgotten the words in fifteen minutes but that she'll wonder for days about the secretary's action of using her perfumed stationery.

Some overseers, faced with these ideas, tend to throw up their hands helplessly and decide that there's just

CONTINUED ON PAGE 124

THIS IS NO. 129 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

SELF-EXPANDING ARBOR SIMPLIFIES DONNING AND DOFFING DYE TUBES

Winding dye packages on the No. 50 winder is made easier by the quick doffing expanding arbor shown in Fig. 1. This self-releasing arbor makes it possible to change from one type of dye tube to another without changing arbors. It can be used for winding onto 1⅝" metal or fibre dye tubes, or for winding dye packages with a stockinette.

Fig. 1

The outer end of the stockinette is held in place by a retainer as shown in Fig. 2. The retainer can be slipped into the outer end of the dye tube easily and quickly.

The operator doesn't have to remove any part of the arbor when she dons and doffs. She merely pushes back the starting handle which in turn allows the arbor and "O" rings that grip the tube to contract. Then she removes the finished dye package without tugging or pulling at it and distorting the package formation.

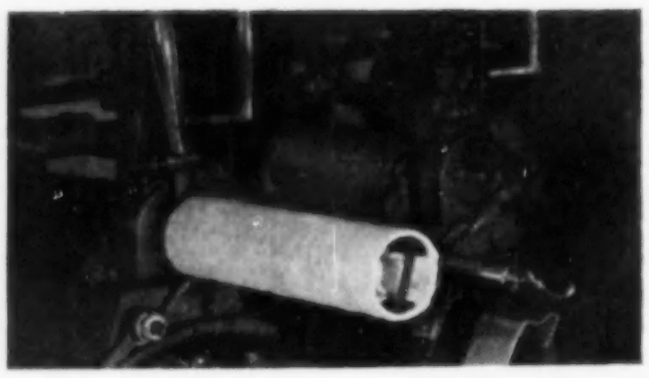


Fig. 2

Unlike other dye tube holders that are expanding by screwing an end piece onto the arbor, the self-expanding arbor expands of its own accord when the operator releases the starting handle. This greatly reduces the time required for the operator to don and doff for she has only to tuck the outer end of the stockinette into the tube and slip the retainer into place as shown in Fig. 3.

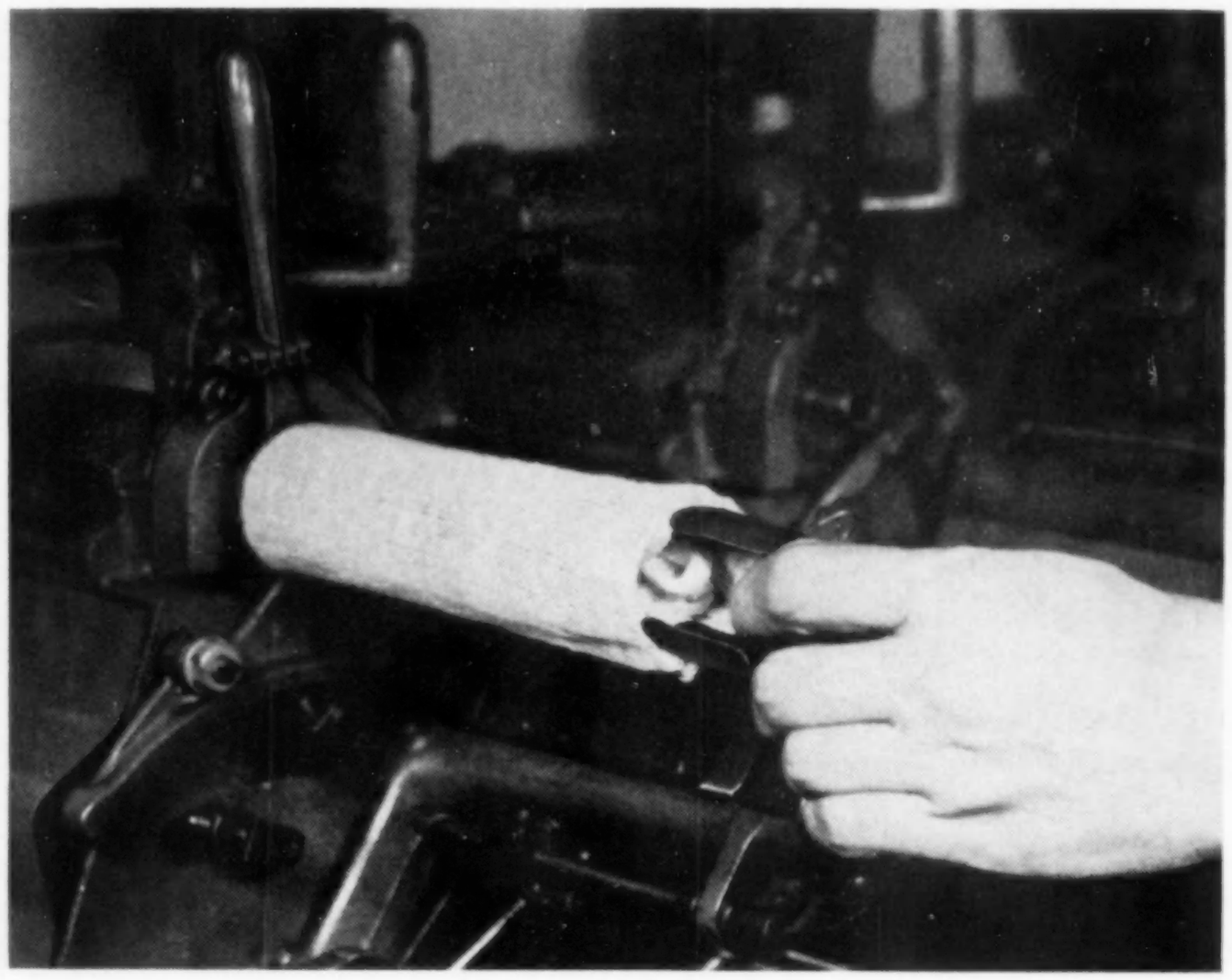


Fig. 3

Winding and Twisting Machinery for Natural and Synthetic Yarns

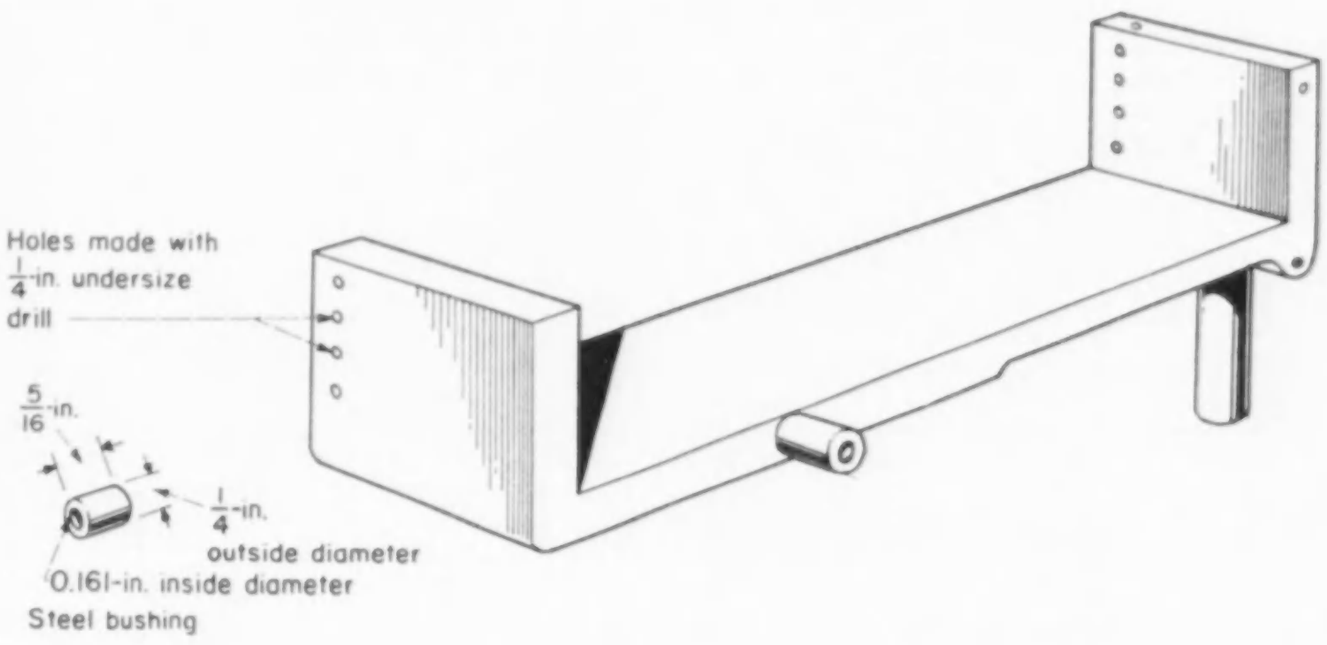
UNIVERSAL WINDING COMPANY

LEESONA

Providence • Boston • Philadelphia • Charlotte • Atlanta • Los Angeles • Montreal, Hamilton, Canada
Manchester, England • Paris, France • Basle, Switzerland

← For more data, write this page number on Reader-Service card.

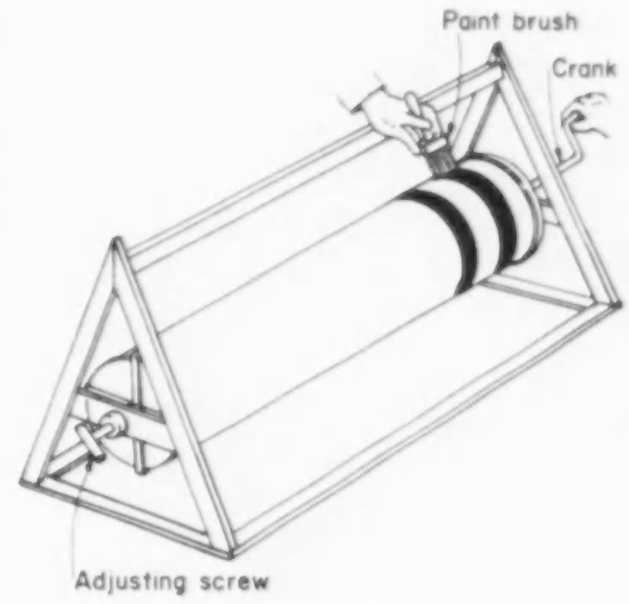
KINKS AND SHORT CUTS



Remove Play on Komet Yarn Feeders

We had trouble on our Komet machines with yarn changes. The yarn feeders had elongated the guide holes over several years' use; and too much play developed for the proper setting at the introduction, feeding, and trapping positions. This situation caused many faults such as drop stitches and bent latches.

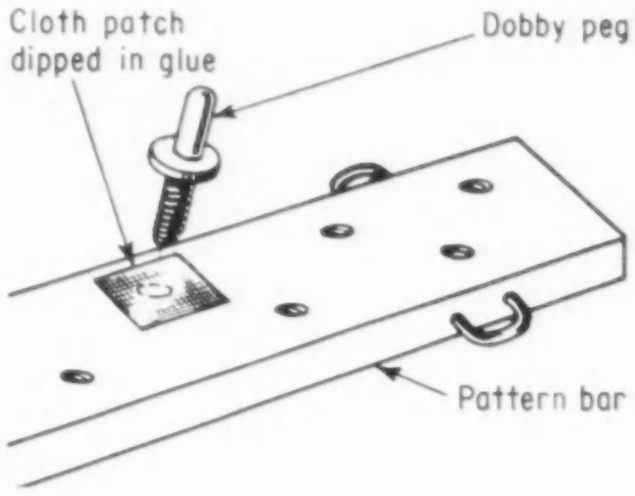
To overcome this trouble, we drilled out the guide hole with a ¼-in. drill, which had been ground to drill undersize. We then pressed a ¼-in. outside-diameter bushing with an inside diameter of 0.161 in. and a length of ⅝ in. into the drilled hole. This action removed the excessive play and corrected our problem immediately. (K-3880) *George D. Yudovitz, Derby, Colo.*



Wooden Frame Makes Can Painting Easy

We used to paint identifying bands on our sliver cans with a paint brush. We used the free-hand method of painting, which was slow and messy.

To speed up this work and do a neater job, we rigged a wooden "lathe" to turn the cans. The cans are quickly clamped into the mechanism and given a spin; the paint is applied by resting the brush against the top brace as shown in the diagram. (K-3869)



Tighten Dobby Pegs With Cloth and Glue

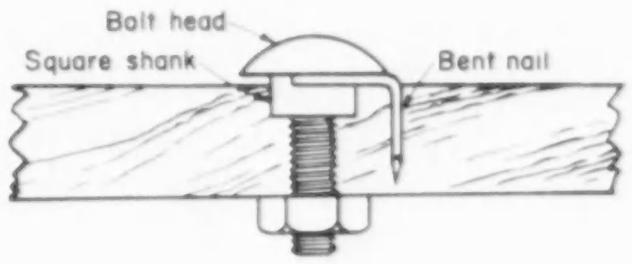
When dobby chains are being pegged, a bar is sometimes found with a hole enlarged so that the peg does not fit securely. To correct this condition, take a small square of cloth, dip it in glue, and twist it into the hole with the peg. When the glue dries, the peg will be held securely without damage to the bar. (K-3476)

Protect Idle Shuttles Until They Are Needed Again

When looms are idle because of warp-outs or other reasons or when all a loom's shuttles are not needed on box weaves, the shuttles should be protected for future use.

Remove the shuttles from the boxes, sand, replace fur, and make any needed repairs. Give the shuttles a coating of wax to protect them from dampness. If the shuttles are to be out of service for an extended period, wrap them in waxed paper.

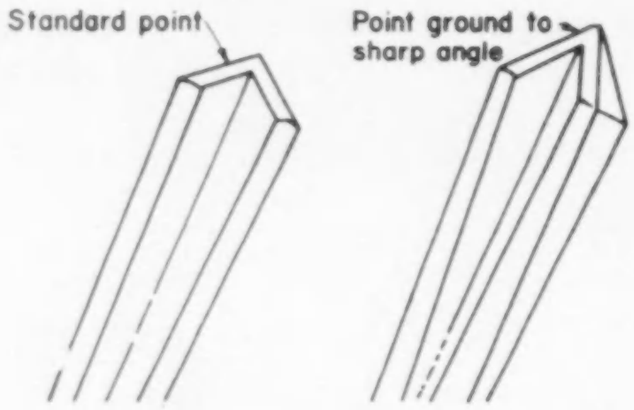
A container made of a gallon can, such as used for oil or antifreeze, can be fastened to the loom to hold idle shuttles. Cut out one side of the can to form a box, and bolt it between the loom arches. When the shuttles are needed, they will be at the loom and in good condition. (K-3724) *H. E. Wenirich, Bloomsburg, Pa.*



Nail Holds Bolt in Wood While Nut Is Tightened

Wood machine parts that hold the heads of carriage bolts often wear after they've been used a long time, and the bolts turn when the nuts are tightened or loosened.

An easy way to tighten the bolt heads is to drive a nail in the wood close to the bolt head. Then bend the nail against the square shoulder of the bolt head so that the nail fits tight against the shoulder. The nail will hold the bolt tight while you screw the nut on or off. (K-3196)



Change Star-Drill Points To Cut Holes Faster

For electricians and plumbers who use a star drill to cut holes in brick or concrete for conduit and pipes, drilling becomes a tiresome job.

But the job can be done with ease if two star drills are used: one with a standard-angle point and the other with a sharper-angle point.

Change the drills every few strokes. The standard angle cuts the edge of the hole, and the sharper angle cuts the center of the hole. In this way, you cut less surface with each stroke of the hammer and the hole is drilled much faster. (K-3520)

Best-Kink Award for May

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 300 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for May, according to TEXTILE WORLD reader-judges, was:

"Here's an Easy Way To Count Stitches"

By Ben Singer, Raleigh, N. C.

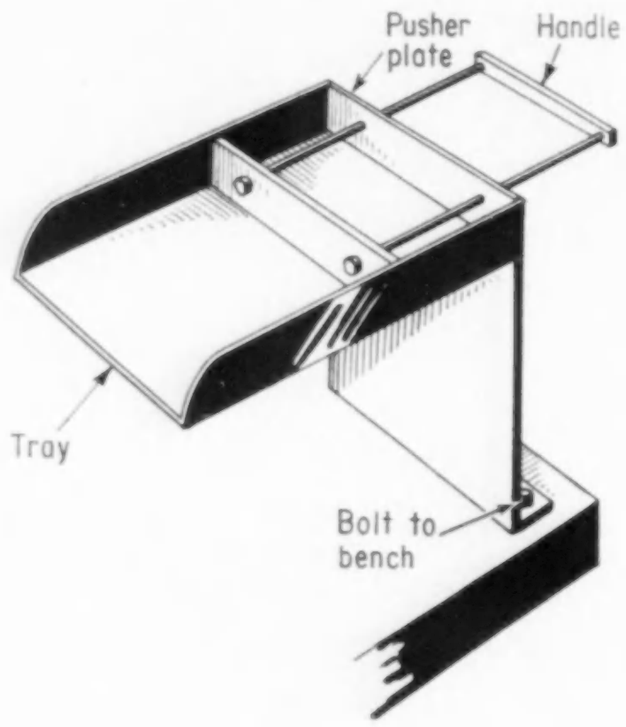
Mr. Singer is being sent a check for $25 with the compliments of TEXTILE WORLD.

Keep Knitting Cylinders Free From Lint

Lots of lint collects on the tops of needle cylinders of knitting machines between cleaning periods. This lint often gets caught in the needle hooks. The result is a piece of faulty fabric, a broken needle, or a smash.

These troubles can be prevented with a 1x1-in. piece of leather pressed against the cylinder. Punch two holes in the leather about ¼ in. from each edge. Insert a piece of stiff wire in one hole; bend the wire and bring it back through the other hole. Twist the end around the standing part of the wire.

Bend a loop in the standing part of the wire, and fasten it to the cam block with the needle-pressure screw. Bend the wire so that the leather presses lightly against the cylinder. (K-3324)



Metal Box Speeds Up Knitting-Wool Packaging

Most of our hand-knitting wools are made up into 1-oz. balls. Packing the balls into bags is a slow job; so we speeded it up with a packaging device made in the mill shop.

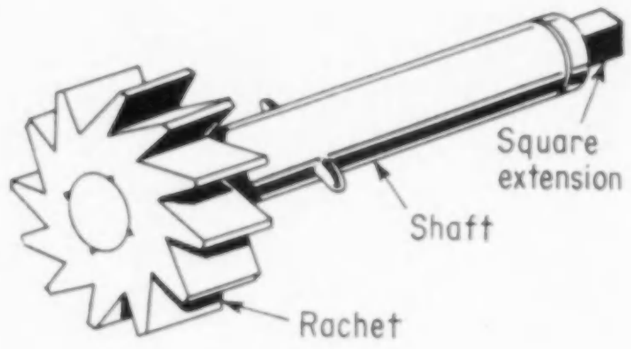
The packager is a three-side box, made from a shiny metal, which is bolted to the bench. The size of the box just fits the size of the pack we require.

A pusher plate, which fits at the back of the box, is welded to two long rods. These rods run through two holes drilled in the back wall of the box, where they are welded to a cross piece to form a handle.

The required number of balls of wool are placed in the tray as they would be placed in the bag. The opened bag is slipped over the open end of the tray to its full length.

When the handle is pushed forward, the plate pushes the bag and the balls of wool off the tray together.

This packager eliminates a lot of fumbling, saves time, and gives us a neater package. (K-3940) *H. A. McLean, Huddersfield, England*



Extend Striper Drums For Better Turning

Turning and setting striper drums on Supreme SAAF/0 machines is done usually with a screwdriver inserted in the ratchet wheel. The ratchet wheel is then pushed around with the screwdriver.

This method is not positive; it can be improved by extending the striper-drum shaft and making the extension square so that the shaft can be rotated with a wrench. The extension needs to be only ¼ in. long. (K-3939) *E. Sturgess, Leicester, England*

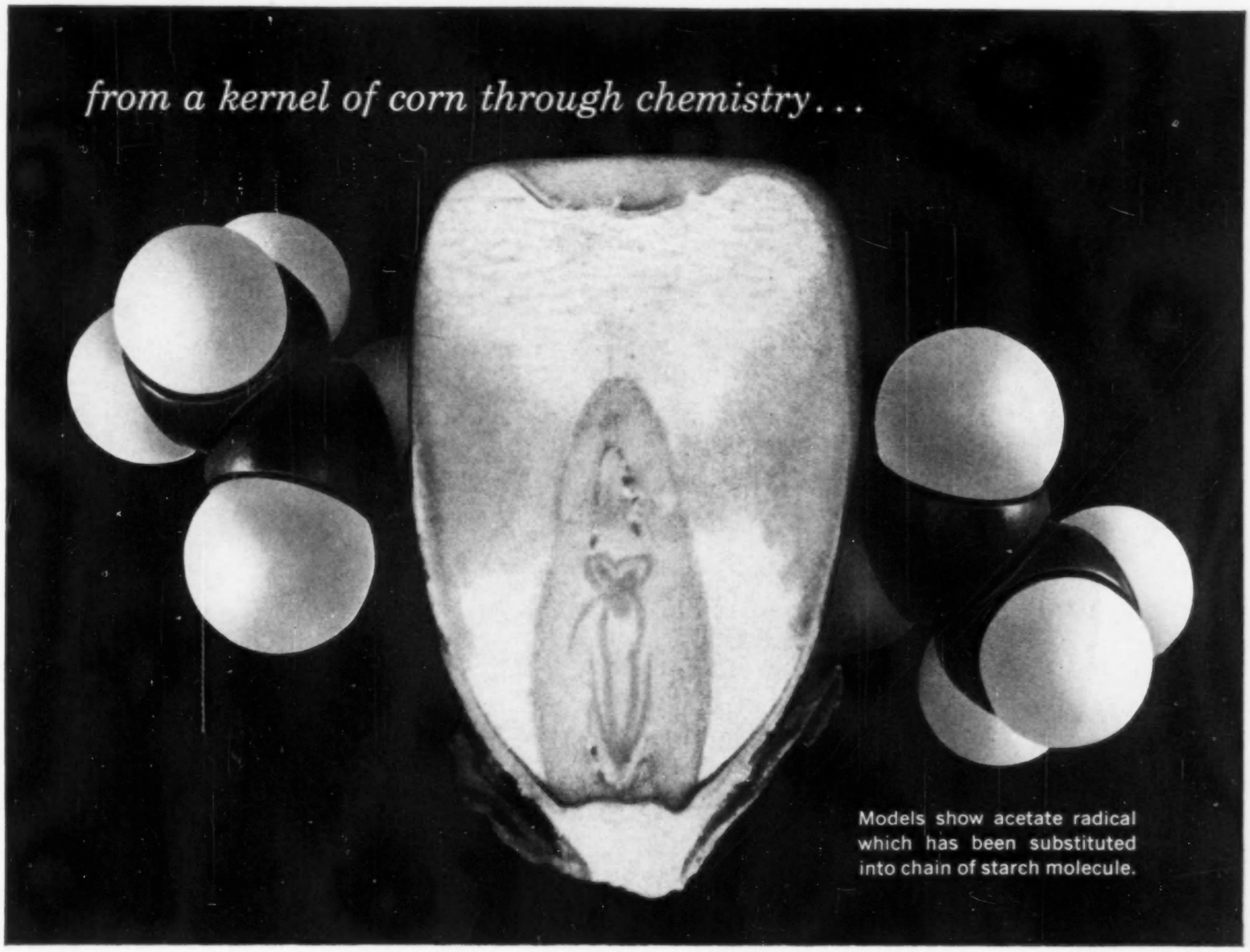
Cellophane-Rubber Tape Holds Repaired Belting

We often have to make temporary emergency repairs to the belting on our belt drives.

For the temporary repair, we cut the belts at an angle by skiving them roughly. Then we glue the joinings and sew them together. But often the outside edge pulls apart so that the whole repaired area comes loose.

We reduced this pulling apart by reinforcing the edges of the belt with ½-in.-wide rubber-covered cellophane tape. The tape is lapped around the belt edges at the top and bottom with the ends of the tape extending about 1½ ins. from the edges.

The tape holds the repaired belt tight until we can make a regular repair. And we have not observed any belt slippage from the repair. (K-3600) *H. Eiger, Tel-Aviv, Israel*


from a kernel of corn through chemistry . . .
Models show acetate radical which has been substituted into chain of starch molecule.

NEW STARCH DERIVATIVE

Another National first! This time: KOFILM, a unique starch acetate ester that insures the extra protection needed to overcome weak spots in textile warp sizing.

KOFILM forms exceptional films. High in strength. Extremely flexible. Very tough. Solutions are slow congealing. Uniform pick-up, too, because of constant viscosity.

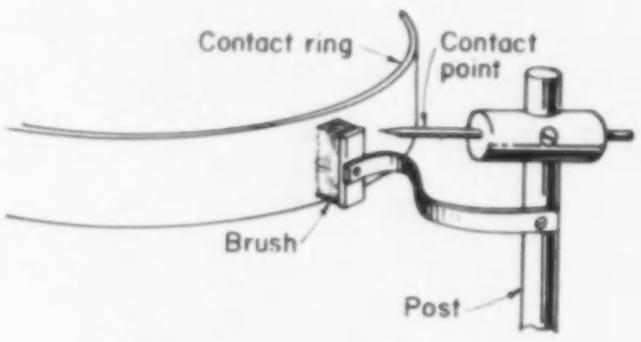
KOFILM is available in a complete range of viscosities. Why not compare it with the starch product that you are now using. Write for data and sample.

National

STARCH PRODUCTS INC.

750 Third Avenue, New York 17 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

For more data, write this page number on Reader-Service card. → 91



Brush on Stop Motion Reduces Failures

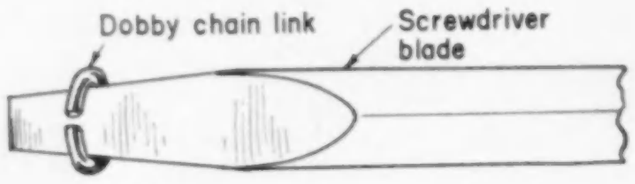
We had several failures of stop motions on our revolving-head knitting machines because lint was picked up by the electric contact on the revolving ring. The lint insulated the contact from the ring and stopped the current from running through the system.

We reduced the failures of the stop motion by installing a brush on the post close to the contact point. We use a small brush that is used to open latches on rib machines, but any small brush can be used.

Screw the brush to a bracket that in turn is screwed to a flattened portion of the upright post that holds the contact point. Make sure that no metal portion of the brush touches the ring. Adjust the brush so that it touches the ring in front of the contact. (K-3327)

Floor Sealer Makes Section Beams Last

The wooden heads and barrels of warper section beams tend to become splintered and rough after long usage. When these beams are new or after they have been smoothed on a lathe, they will stay smooth for years if two coats of plastic floor sealer are applied. (K-3088)

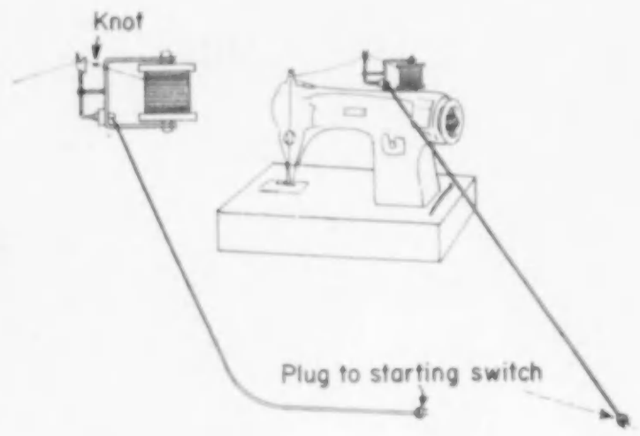


Remove Dobby Link With a Screwdriver

Many loomfixers and pattern men use pliers to spread dobby links when they are building or repairing a pattern chain. The pliers often damage the link or the pattern bar.

A 10- or 12-in. screwdriver with the point ground to fit into the link will spread the links without damage. Just insert the point of the screwdriver and press to spread the link. (K-3474)

H. E. Wenrich, Bloomsburg, Pa.



Stop Motion Eliminates Needle and Thread Breakage

A power cut-out switch that is operated by sewing-thread knots as shown will save considerable time in the sewing room.

The U-shaped support for the knot catcher and push-button switch is made from No. 1 steel wire, as is the short arm on which the knot catcher is pivoted. When a knot is caught in the V-shaped groove, the rod on which it is mounted tips and depresses the push button. The push button then breaks the power circuit for the sewing machine; and the knot can be eased through the needle by hand, which saves rethreading and needle breakage. (K-3823)

$500 for Best Kink in 1958 - - - $25 for Best Kink Each Month

Plus $5 to $10 for Every Kink Accepted

What Is a Kink?

Any idea that will

- Cut costs
- Improve quality
- Reduce work
- Increase production
- Make work easier

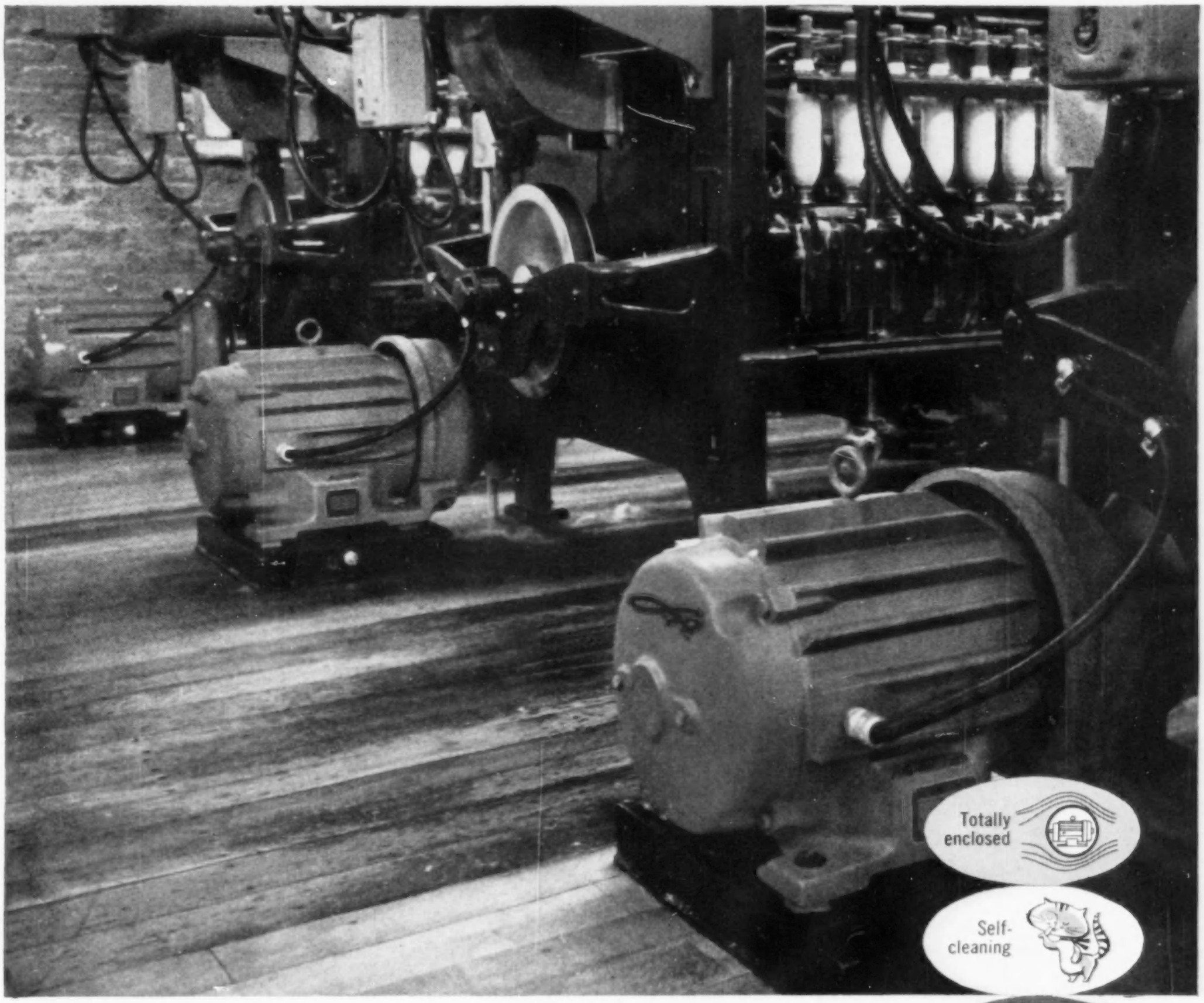
The idea may be one for improving machines, some attachment for a machine, a short-cut way of doing something, a labor-saving device—any idea at all that helps a mill man run his job better or easier.

Send in your Kink now. There is always a contest going on.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1958.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 300 will be asked to select preferred Kinks in each issue. Their votes will select the best Kinks, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.



"Seconds" reduced with self-cleaning motor

New Louis Allis textile motor runs cooler, reduces lint pile-up, won't dry out ends

The new Louis Allis "Clean-Flo" textile motor is specifically designed to meet your mill requirements. "Clean-Flo" is totally enclosed — lint absolutely can't contact the inside of the motor.

"Clean-Flo" is cooler running than other motors, too. It's designed to mount a fan several sizes larger than normal to blow considerably more air across the motor. That means fewer cooling ribs are needed, so there are none on the bottom of the motor, and a further chance of lint pile-up is eliminated.

The big fan on the shaft extension end holds down any heat build-up, and limits the transfer of heat to the spinning frame. The motors pictured above are mounted to blow lint away from the driven machine so that spindles will not dry out.

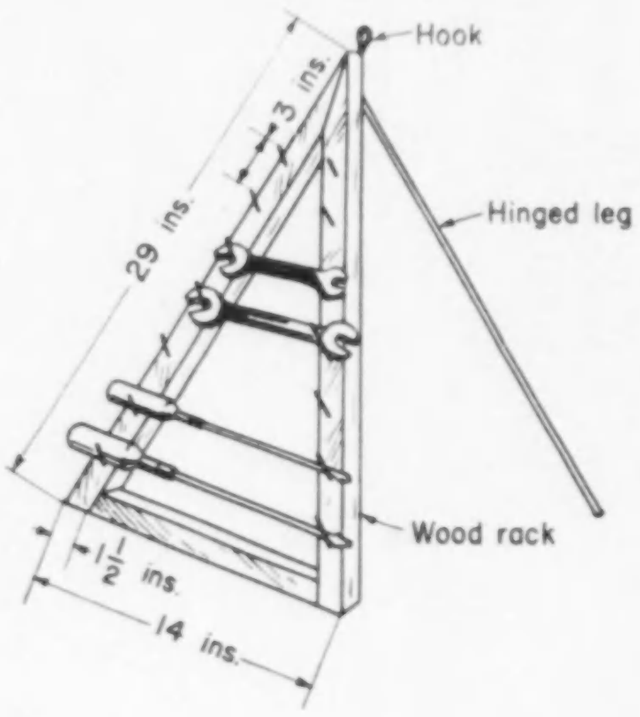
The "Clean-Flo" is also available with "soft-start" characteristics needed in roving so that ends won't break. It's a built in feature — no extra control mechanism is needed to get the easy start.

Write for Bulletin 1850, "Clean-Flo Textile Motors" to your Louis Allis District Office, or The Louis Allis Co., 443 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES

For more data, write this page number on Reader-Service card. →



Tool Rack for Mechanics Keeps Tools Within View

We often have large maintenance jobs in our production departments that require several days' work from several maintenance-department mechanics. All these men use the same large tools. We used to have a lot of confusion when mechanics looked for a given tool.

But we made the tool rack shown in the accompanying sketch, and now tool selection is fast and orderly.

The tool rack is made of wood with large nails driven into each side to hold tools. A metal leg is bolted to a hinge screwed to the back of the rack.

The rack can be moved easily and set up quickly in an out-of-the-way corner. If no corner is nearby, the rack is hung on the wall by a large hook fastened to the top of the rack.

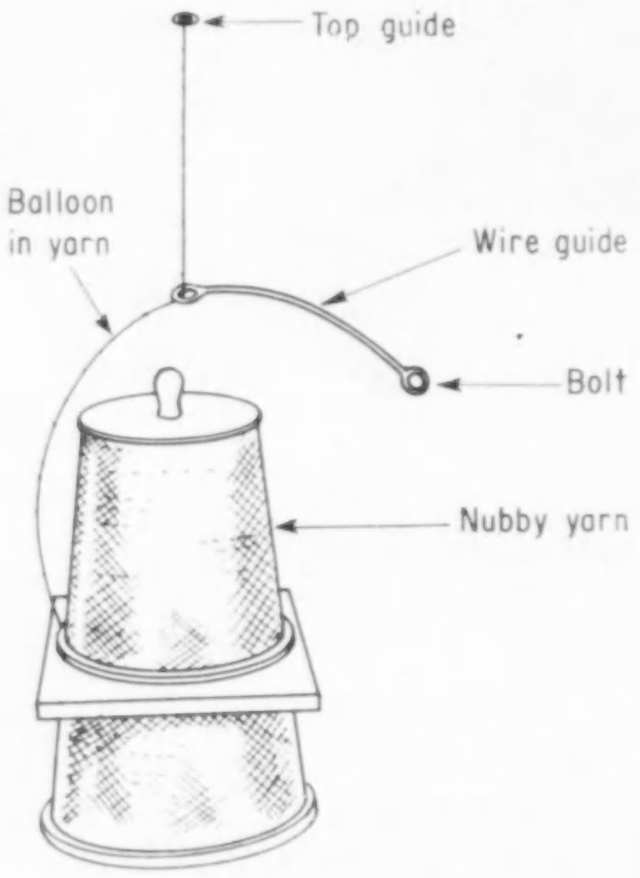
Long tools are placed at the bottom of the rack, and shorter ones are held at the top. A mechanic can see at a glance if the tool he needs is being used by someone else. (K-3903) *Hokao, Fukaya, Fukui-ken, Japan*

Bottle-and-Wick Dampener Loosens Ends for Pick-Out

When it is necessary to pick out a number of ends at the loom, the job can often be made easier by dampening the cloth with water.

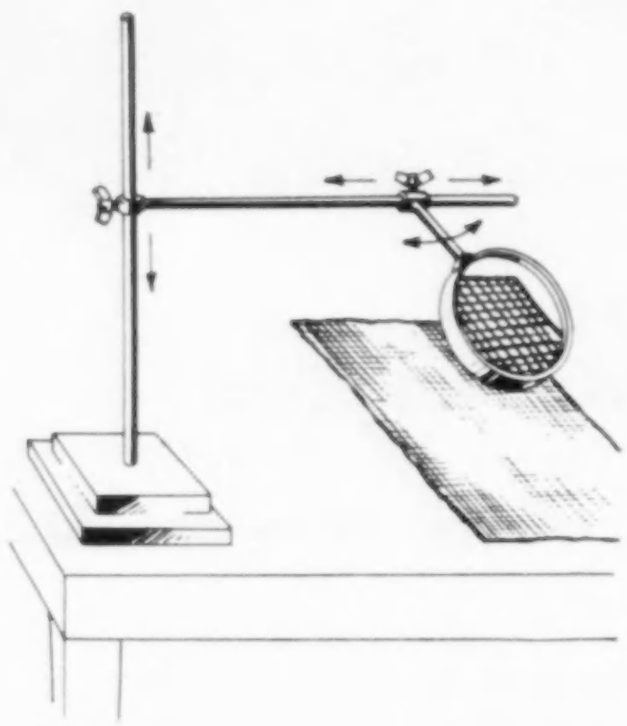
An efficient dispenser that will release just enough water to dampen the cloth can be made from a bottle and a piece of felt.

Attach the felt over the neck of the bottle of water as shown in the sketch. Invert the bottle and rub the felt over the section to be picked out, and the water will dampen it enough to make the ends separate easily. (K-3721) *Joseph A. M. Sewesky, Berwick, Pa.*



Guide To Control Balloon Prevents Nubby-Yarn Breaks

When yarns containing nubs are run on automatic quillers, the yarn often hangs on a nub and breaks. A thread guide that causes the yarn to balloon around the bobbin will throw it clear of the nubs and reduce breakage. The guide is made of wire, and it is bolted to the side of the quiller. (K-3615) *H. E. Wenrich, Bloomsburg, Pa.*



Adjustable Mount Holds Magnifying Glass

A portable, adjustable mount for a magnifying glass is useful for some inspecting jobs and leaves both hands free.

A base of solid metal has an upright rod welded to it. A cross arm with a collar slides on the upright piece. The arm is held in place by thumbscrews.

The handle of the magnifying glass is adjustable on the arm, and thus the glass can be set in any position for inspection. (K-3708) *H. J. Haas, Martinsburg, W. Va.*

Weaver's knot

Knots In Pipe Cleaners Help Teach Weavers

It is sometimes hard to teach beginning weavers how to tie knots in yarn. If pipe cleaners are used to make sample knots, it will be much easier to show just how the knots are made.

The pipe cleaners are large enough for the different loops of the knot to be seen clearly, and the knot will hold its shape without being drawn tight, as must be done with knots in ordinary yarn. (K- 3569) *Bennett G. Gesmer, Brookline, Mass.*

Gay cottons like the one above—as well as rayons and blends—have a special reason for that happy, carefree look they wear—they've been treated with RHONITE R-1. This modified urea formaldehyde resin is a monomeric product of such small molecular size that it penetrates and reacts inside textile fibers. That's why wash tubs won't worry fabrics treated with RHONITE R-1. And they just wink at wrinkles—only a touch of the iron and you'd think they were store-fresh.

Don't you think you ought to find out about treating your fabrics with RHONITE R-1? Why not write today?

Chemicals for Industry

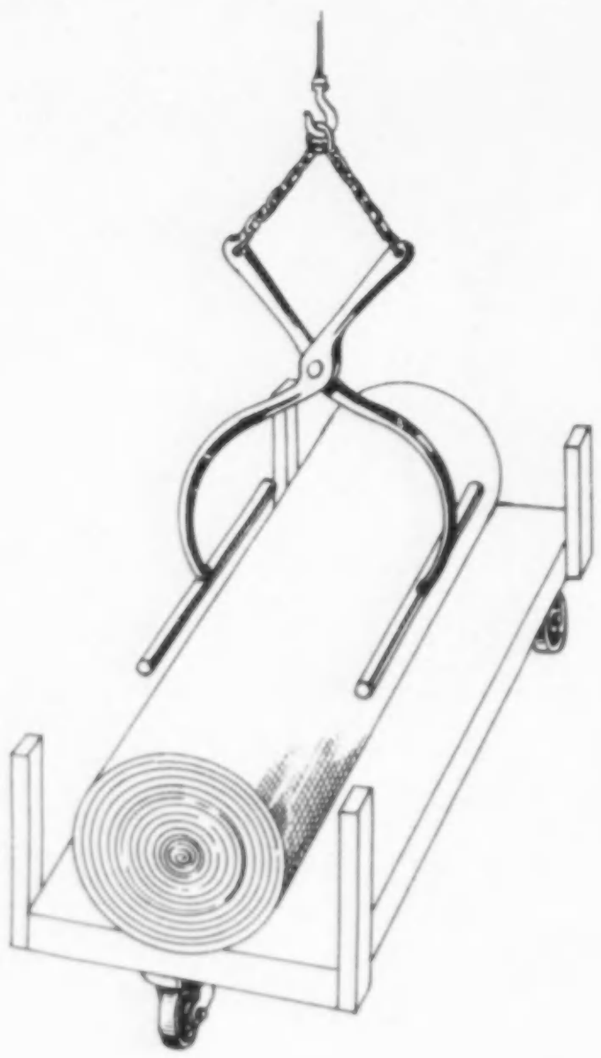
ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

RHONITE *is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.*

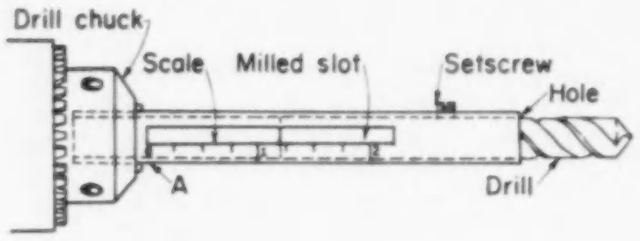
For more data, write this page number on Reader-Service card. →



Cloth Is Loaded With Hoist and Tongs

We run big rolls of cloth, and the doffers had trouble placing the heavy rolls on trucks for transportation to the cloth room.

The problem was solved by installing an electric hoist and using a tong arrangement to grip the rolls without damaging them. The tongs are similar to those used to handle blocks of ice but have a bar welded to each tip that grips the cloth horizontally. (K-3672)



Depth Gauge Insures Fast, Accurate Drilling

When you need to drill holes with a drill press to specified depths, the depth gauge shown in the accompanying sketch will let you drill the holes fast and accurately.

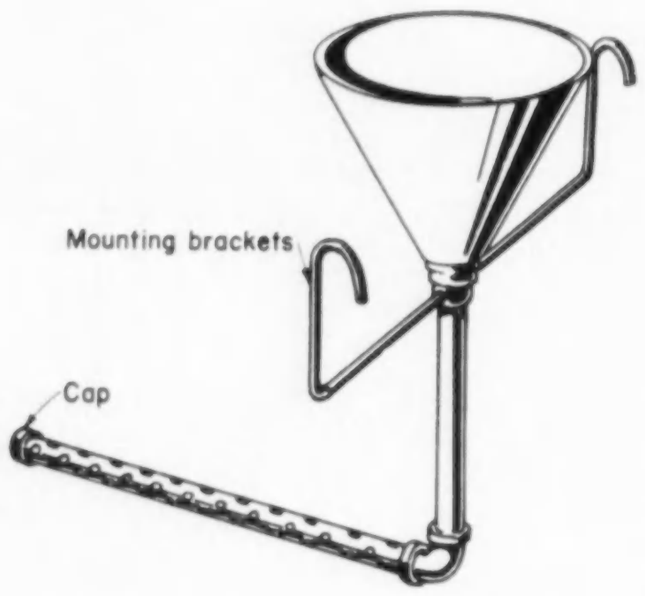
The gauge is made from a piece of round steel stock 4 or 5 ins. long and $\frac{7}{16}$ in. in diameter. Drill a hole the size of a standard-diameter drill through the center length of the rod that extends beyond your drill-press chuck, as shown by line A in the sketch.

Then plane a $\frac{3}{16}$-in.-wide slot in line with the center hole in the round stock. File lines at the outside edge of the slot in $\frac{1}{4}$-in. calibrations, and stencil each line at the 1-in. points.

Drill and tap a hole in the stock $\frac{1}{2}$ in. from the open end for a $\frac{3}{16}$-in. hollow-head setscrew to hold the drill, and the tool is completed.

If you need to drill a hole 2 ins. deep, set the butt end of the drill at the 2-in. line on the indicator rule and tighten the setscrew.

You will need a depth gauge for every drill size within $\frac{1}{32}$ in. so that drills will be centered within reasonably accurate tolerances. All drills used must be new ones; resharpened drills cannot be used because the surface lost in grinding will make the gauge inaccurate. (K-3633)



Perforated Pipe Helps Distribute Dye

Dyes can be distributed more evenly in a dyebath if you use the feeder shown in the sketch.

Mount a funnel on a suitable length of pipe, and use an elbow to attach a piece of perforated pipe as shown. The feeder is particularly valuable in machines where the liquor is circulated by a pumping system. Stainless steel should be used throughout to avoid corrosion from dyes and chemicals. (K-3924)

Round Brush in Hand Drill Cleans Slots in Machines

When slots or other recesses in machines are cleaned, a round brush with bristles is usually used. These recesses can be cleaned more easily and thoroughly if you mount the brush in a portable drill.

Use a standard brush with a twisted-wire handle. Cut the eye end off the handle, and press a small metal tube over the wire handle all the way to the brush. The tube will support the brush so that pressure can be applied, but it will still let the brush bend around corners. (K-3500)

W. E. Warner, Essex, England

Stop Motion Keeps Fabric out of Rolls

When the fabric on knitted-outerwear machines piles up on the floor or in the can, there is danger that the fabric may be pulled through the take-up rolls again.

We developed a stop motion that instantly stops the machine if this accident happens. A flat spring about 1 in. wide is attached to the take-up bracket so that the end of the spring nearly touches the top of the front take-up roll.

A curved spring of the same size is screwed below the flat spring. The two springs are separated by a 1-in. piece of insulating strip.

A wire from the stop-motion circuit is coupled to a screw on the flat spring. The other wire from the stop-motion circuit is fastened to the curved spring.

When the fabric lifts the curved spring, the curved spring touches the flat spring, completes the stop-motion circuit, and stops the machine. The two springs must be well insulated, and the screw coupling the two together must be insulated. (K-3714)

A. W. Oras, St. Jerome, Que.

FIDELITY for SEAMLESS

Only Fidelity offers a complete line of machines incorporating *all* the outstanding developments in circular knit hosiery equipment design . . . *plus* exclusive Fidelity electronic control!

- **400 or 474 Needles**
- **Single or Double Feed**
- **Automatic Tension Device**
- **Plain, Mesh or S-T-R-E-T-C-H**
- **Individual Motor Drive with . . .**
- **Electronic Push Button Control**

You select the performance features *you* want . . . when you select a Fidelity. See the *complete* Fidelity line in operation at our showrooms . . . or write for stocking samples today.

Designers and Builders of Intricate, Automatic Precision Machines

SINCE 1911

FIDELITY MACHINE COMPANY, INC.

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

EXPORT DEPT.: 11 BROADWAY, NEW YORK 4, N.Y.

SOUTHERN REPRESENTATIVE: C. S. BRANNOCK, P.O. BOX 763, MT. AIRY, NORTH CAROLINA

For more data, write this page number on Reader-Service card. → 97

POWELL

world's largest family of valves

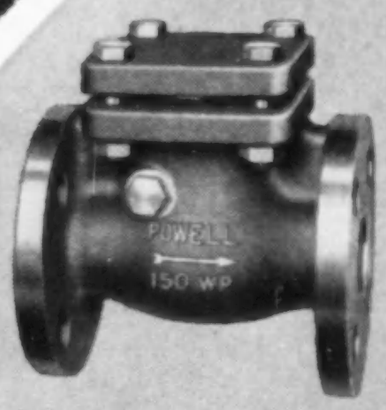


Fig. 2342—Stainless Steel Swing Check Valve for 150 W.P. at 500F. Bolted cap, flanged ends. Can be furnished with screwed ends. Also made for 300 and 600 W.P.

Fig. 2193—Ni-resist O.S. & Y. Gate Valve for 200 W.O.G. One of a line of Ni-resist valves for services where high nickel-iron alloy valves are required.

Fig. 1861—Stainless Steel Globe Valve for 200 W.P. at 500F. Union bonnet, screwed ends. Valves with flanged ends and angle valves can be supplied.

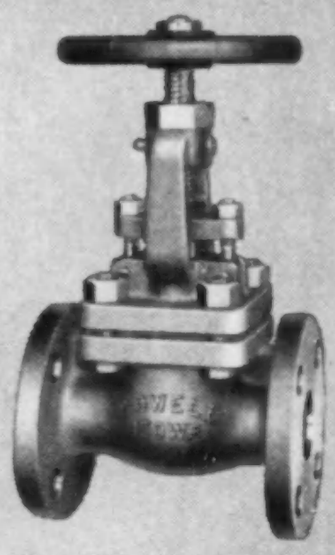


Fig. 2475—Stainless Steel O.S. & Y. Globe Valve for 150 W.P. at 500F. Screwed end valves of this design are also available.

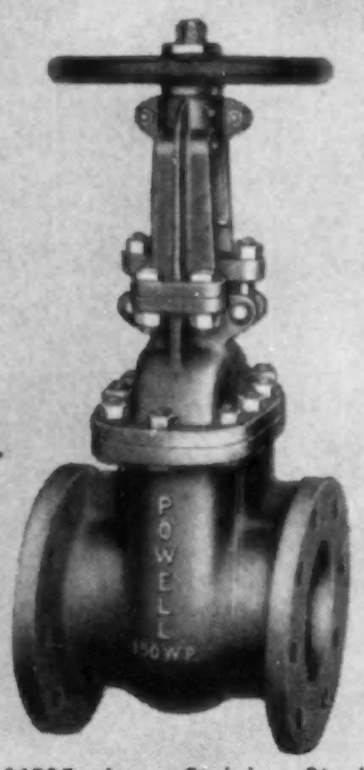


Fig. 2453G—Large Stainless Steel Gate Valve for 150 W.P. at 500F. Outside screw rising stem and yoke. End flanges conform to MSS SP-42.

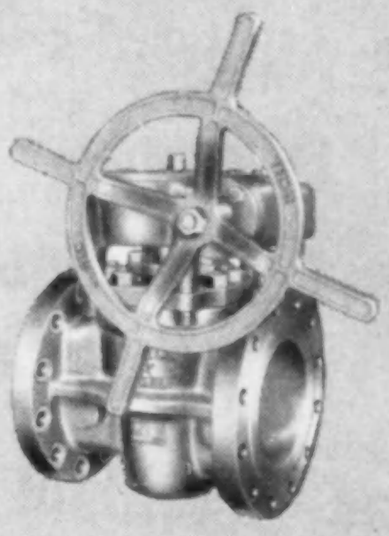


Fig. 3059G—Steel Lubricated Plug Valve for 300 pounds. Bolted gland type. Worm gear operated in sizes 6" to 12".

FOR EVERY FLOW CONTROL PROBLEM Powell offers more kinds or types of valves, available in the largest variety of metals and alloys, to handle every flow control requirement. Your local valve distributor will be glad to tell you all about them. Or write to us for the full facts.

THE WM. POWELL COMPANY • *Dependable Valves Since 1846* • **Cincinnati 22, Ohio**

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultant, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Two Ways To Make Stretch-Wool Yarns

Technical Editor:

How are stretch-wool yarns made, and what equipment is necessary? (1390)

There are two methods of making stretch-wool yarns. The first method uses conventional wool spinning frames that have been modified to take the cones of stretch yarn, which are creeled above the roving.

The stretch yarn is run over a guide rod through a special guide for the core yarn over the drafting rolls and between the front rolls. The guide keeps the stretch yarn and the roving aligned as they are delivered into the bite of the front rolls.

Use a regular traveler for core yarns A heavy traveler will give the yarn a ragged appearance, and a light traveler might produce kinks in the yarn.

A 2/70-den. or 2/100-den. stretch yarn is generally used as the core yarn. Experiment with yarn-size combinations and twists to give you maximum stretch.

The second method is the most usual way of producing stretch-wool yarns and requires a twister frame in addition to conventional spinning and winding equipment.

Woolen yarn is spun to about eight-run with minimum twist. This yarn is twisted with one end of 2/70-den. or 2/100-den. stretch yarn on conventional twister frames. Place tension on the stretch yarn to take the kinks out of it and cause the wool to cover the nylon when the yarn contracts. Worsted yarns, spun to about 24s, are also twisted with stretch nylon.

Tests by the U. S. Army have proved that socks made from the latter type of yarns give better stretch than socks made from core-spun yarns.

How To Scour Cotton Knitted Fabrics

Technical Editor:

We are having trouble with knitted cotton fabrics that we sell to coaters. The bond between the fabric and the vinyl coating is sometimes unsatisfactory. Can you suggest a scouring procedure that will produce a surface with good bonding properties? (1370)

We assume that you are not bleaching the cotton goods that are going to coaters. To get good bonding, the natural impurities of the cotton and the traces of lubricating oil or yarn conditioners that may have been added in manufacture must be removed as completely as possible. We suggest the following treatment:

Load the goods into a dyebeck at a 20 to 1 ratio—that is, 20 lbs. of water to 1 lb. of goods. Add 1% owg. of soda ash, ½% owg. tetrasodium pyrophosphate, ½% owg. high-titre soap, and 1/10% owg. caustic soda.

Raise the bath temperature to 190 to 200° F., and run for 45 to 60 mins. Flood the bath over the top of the beck to float off any scum that may accumulate on the surface, and cool the bath to about 120° F.

Dump the bath and give the goods two warm rinses in fresh water or until they are neutral to litmus paper. Pink litmus paper will turn blue in the presence of free alkali. If the alkalinity persists, add 1 lb. 56% acetic acid per 1,000 gals. of water; and recheck after running for 15 mins.

A scour of this type should prepare your gray cotton fabrics adequately for any coating operation.

How Man-Made-Fiber Sewing Threads Are Made

Technical Editor:

What equipment is used for producing sewing threads from man-made fibers, and how are these threads made? (1393)

Multifilament threads of nylon, Dacron, or Orlon make up the bulk of man-made-fiber sewing threads used today. However, a single twistless thread or monocord is another type that is used to eliminate kinking and snarling normally associated with twisted thread. Splitting, raveling, and friction are reduced with the latter type of thread.

Machinery for twisting and doubling man-made-fiber yarns for sewing thread is of the same type used in preparing filament yarns for weaving and knitting. A bonding agent of polyvinyl alcohol is often put on the yarn to reduce abrasion during manufacture, but the agent must be removed before final packaging.

The direction of twist in straight doubled threads is always opposite to that inserted in the single yarns from which the thread is made. Left or right twist is the final twist, but the demand is more for left twist.

In six-cord or cabled thread, there are three twists. The first twist is given in the spinning of the single yarns, the second twist in the ply, and the third twist in the cabling.

Single yarn is doubled in the same direction as the first twist. The finishing twist that cables the plied yarns is then inserted opposite to the two preceding twists. The twists in the spinning and doubling of the yarns must be properly balanced and minimum tension applied to prevent kinking.

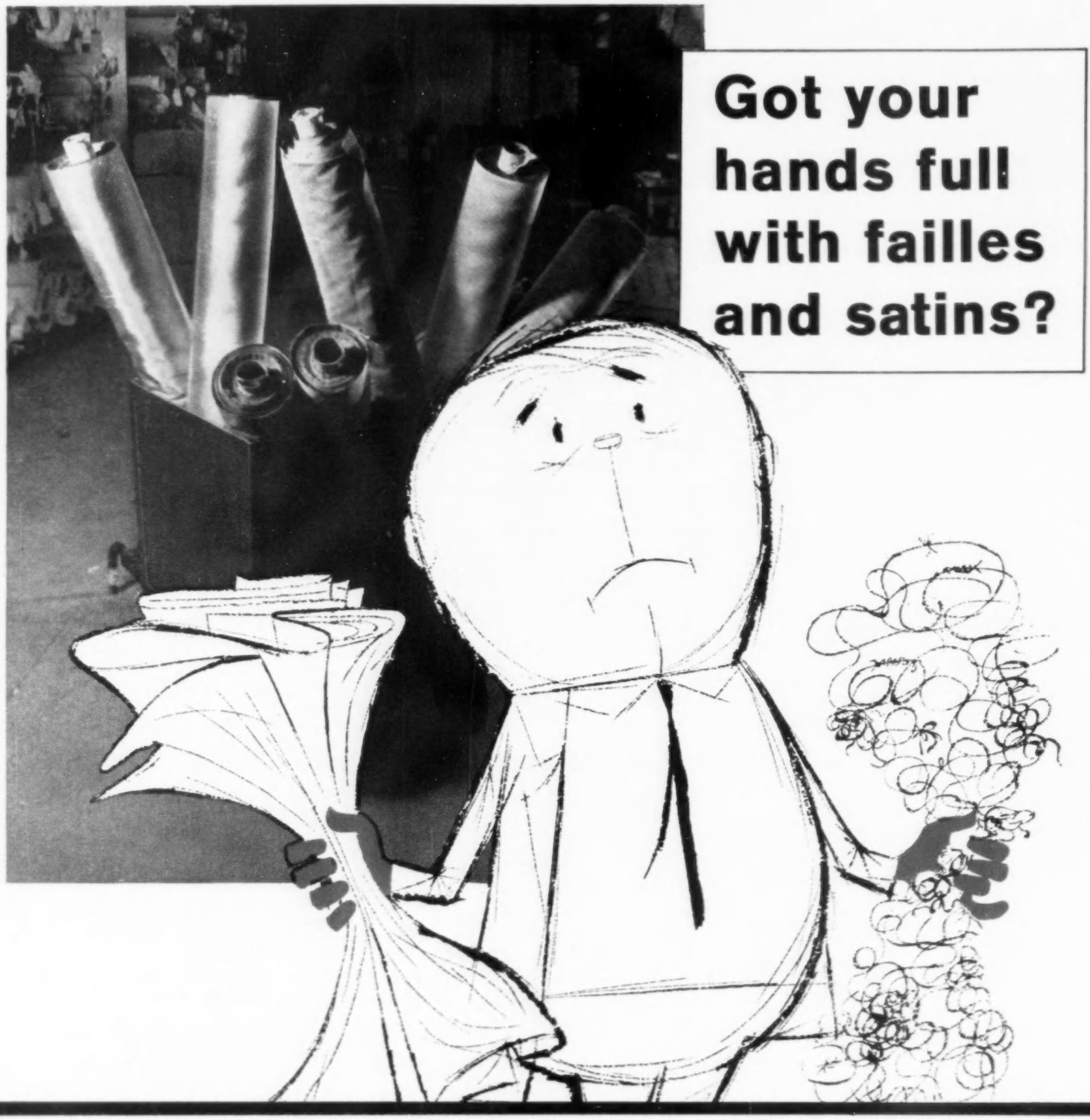
Nylon, Dacron, and Orlon sewing thread should be preshrunk and set to prevent excessive stretching. This treatment can be done in boiling water or steam under pressure.

Finishing-Plant Seconds Run From 1 to 2%

Technical Editor:

What are the standards for seconds in cotton printing plants and cotton dyeing and finishing plants that process shirtings, gabardines, and draperies? (1382)

Seconds in a cotton printing plant run from 1 to 2%. Cotton dyeing and finishing plants run about the same amount of seconds.



Got your hands full with failles and satins?

When a fabric's face is your fortune, how can you leave things to chance?

Yet, when you weave critical fabrics like failles and satins from ordinary rayon yarn, you're handing yourself many chances that knots and fluffs and slubs and dye-streaks will mar your yardage!

You see, ordinary rayon is handled many, many times in its processing. From the chemical treatment stages to the final coneing or beaming, hundreds of pairs of hands add to the hazards.

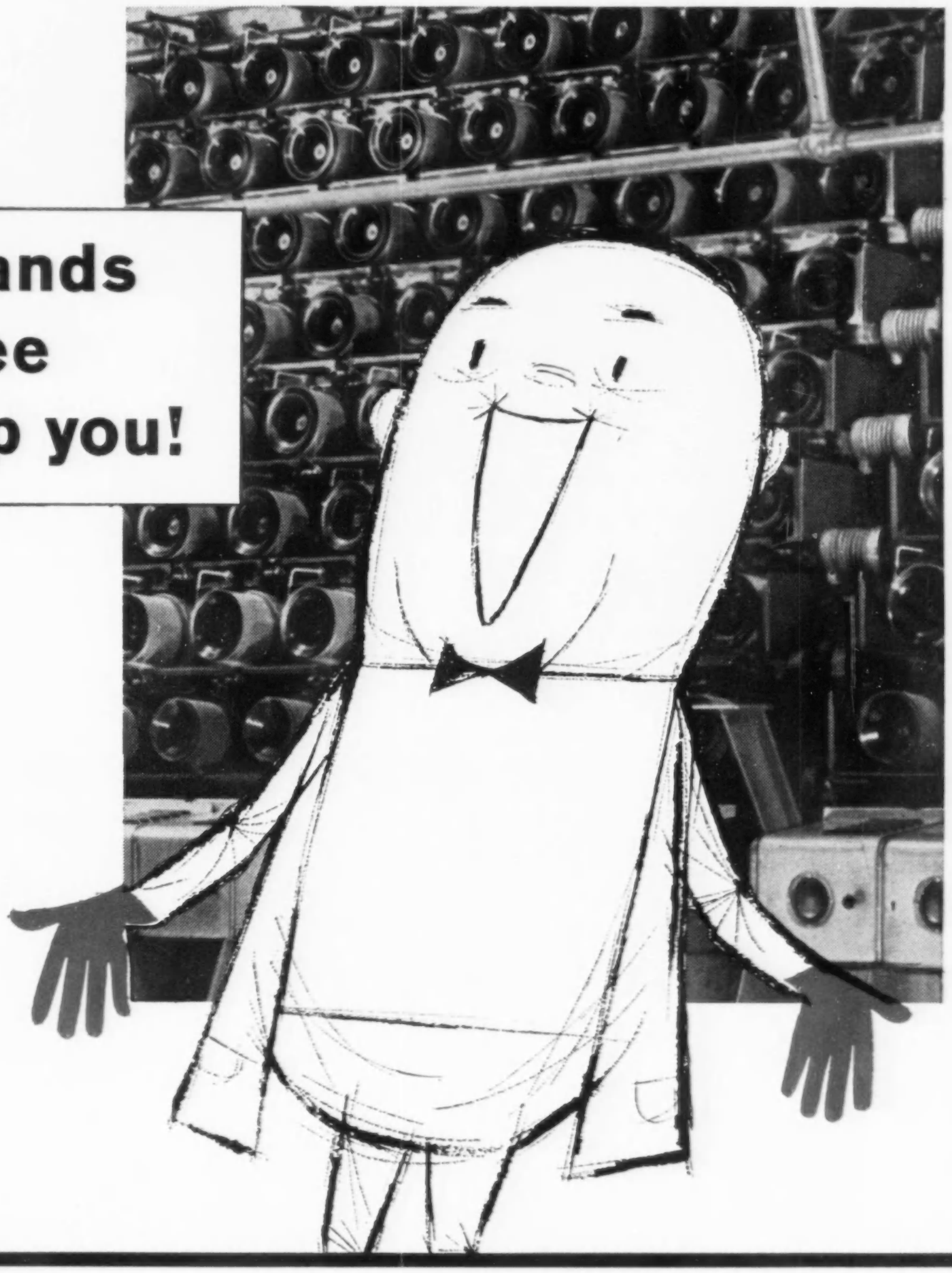
I.R.C. Continuous Process rayon yarn, on the other hand, is made with a "hands off" policy. It travels in a continuous thread, down a succession of "advancing reels," to its final, controlled, uniform perfection. It's as perfect as it's possible to make it.

Surprisingly enough, it costs no more!

If you'd like a hand with your critical fabric problems, just call us...or write us...or come and see our Painesville, Ohio plant. It's the only one in the entire country that can actually make a difference in your fabric production. We'll be delighted to show you how, and why, at our plant...or at yours.

I.R.C. CONTINUOUS PROCESS RAYON COSTS NO MORE... SAVES YOU PLENTY

Our hands are free to help you!

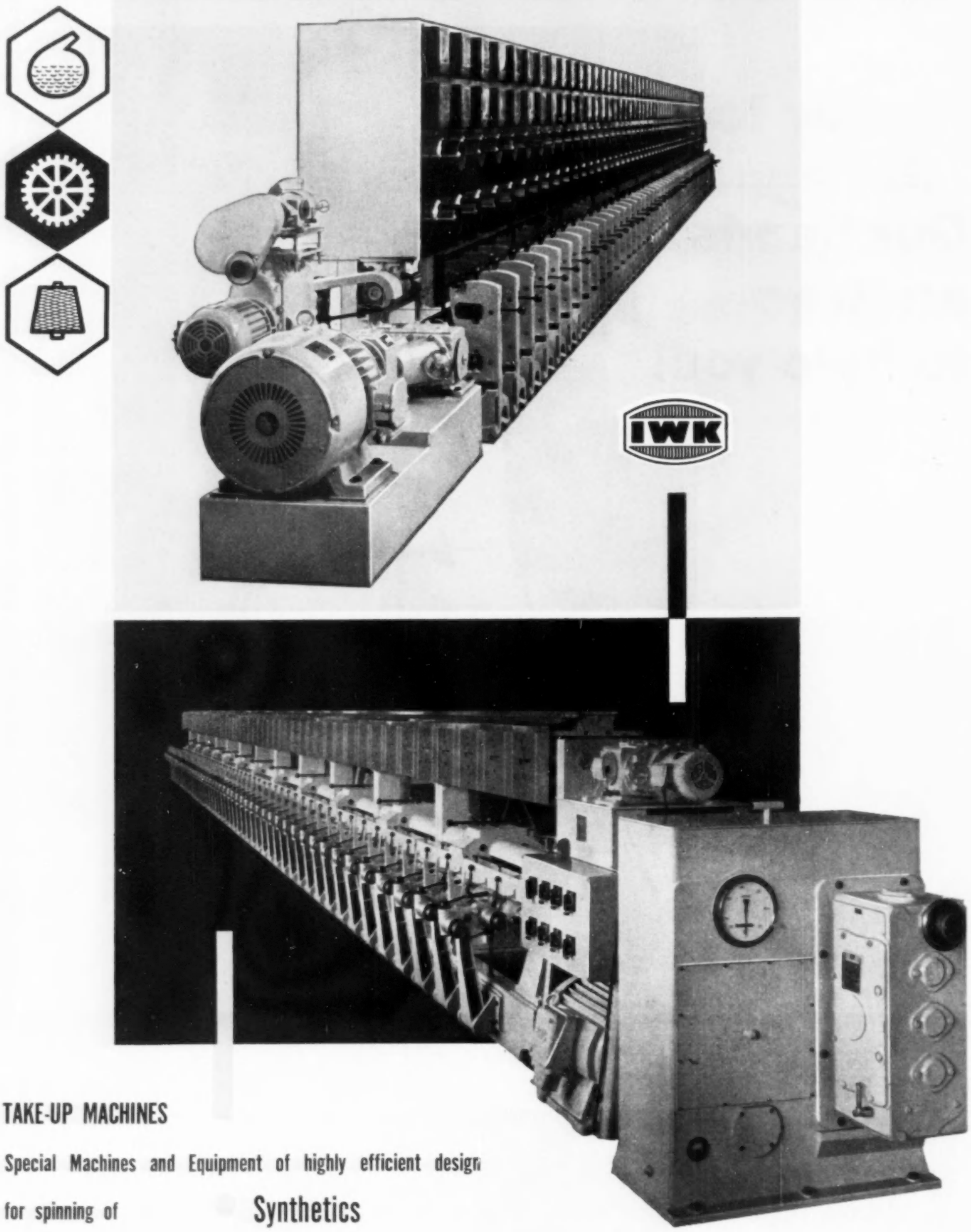


I·R·C

Industrial Rayon Corporation
Cleveland, Ohio

Producers of Continuous Process Rayon Yarns and Tyron® Cord for Tires
Sales Office: 500 Fifth Ave., New York 36, N. Y.

BECAUSE IT'S PERFECT INCH BY INCH . . . UNIFORM MILE AFTER MILE!



TAKE-UP MACHINES

Special Machines and Equipment of highly efficient design

for spinning of

Synthetics

Acetate

Rayon

Your inquiries are invited

INDUSTRIE-WERKE KARLSRUHE A. G. — KARLSRUHE/WESTERN GERMANY

Exclusive Distributors NATIONAL INDUSTRIAL MACHINERY CORPORATION—Suite 5119—Empire State Building
350 Fifth Avenue, New York 1, N. Y., U. S. A.

FIBERS YARNS FABRICS

No-Iron Cotton Sheets

Cotton percale and muslin sheets and pillowcases that need no ironing have been introduced by Pequot Div. of Indian Head Mills, Inc. They are being sold under Pequot's E-Z Care brand name.

A wrinkle-resistant, nonchlorine-retentive finish is said to produce a smooth appearance without ironing regardless of the laundering or drying method used.

New Metallic Yarn

Ultra-Vat, an improved metallic yarn, has been introduced by Metlon Corp.

This Mylar-based yarn has all the properties of Metlon-with-Mylar plus increased resistance to Fade-Ometer and sunlight testing. Ultra-Vat is more resistant to bleaching, mercerizing, vat dyeing, and Sanforizing.

Knitted Mohair

Rapidly gaining popularity among knitted-fabric producers is a mohair fabric with a loop textured surface.

The yarn is made from 88% mohair and 12% nylon, which forms the binder thread. The yarn is laid in the fabric on alternate feeds or at the third or fourth feed. The background cloth is wool jersey.

Fiber for Nonwoven Fabrics

A new low-melting thermoplastic binder for nonwoven fabrics has been announced by Du Pont. The fiber is Dacron made as an undrawn, uncrimped 1½-in. staple with an average denier per filament of about 8 to 10.

The binder may be blended with conventional Dacron staple and processed on conventional web-forming machines. When the fiber is calendered or hot pressed at 340 to 400° F., it adheres to the conventional Dacron staple to form a strongly bonded nonwoven fabric.

Such fabrics are suitable for electrical tapes, interlinings for suits, and backing for coated fabrics.

New Saran Fiber

A new saran fiber called Spark-l-ite, introduced by National Plastic Products Co., is a lightweight monofilament with a sparkling satin appearance with a greater yield per pound than other saran fibers.

The new fiber is soft, strong, durable, and easily cleanable. These properties make it desirable for automobile seat covers, summer furniture tapes and fabrics, drapery, and upholstery. The fibers are made in several solid colors.

Shaded Tufted Carpets

Skein-shaded yarns are being used in England to give random colored pattern effects to tufted carpets.

The yarn, in skein form, is dipped partially in one dyebath and removed. The undyed portion of the skein is then dipped in another bath containing a second color.

Pattern possibilities are very wide. For instance, if half the yarn is dipped in one bath and half in another bath, there would be a random pattern in two colors, which would occupy equal areas of the carpet. If three-quarters of the skein is dipped in green and the remaining quarter is dipped in brown, the carpet would be predominately green with splashes of brown.

Colored Carpet Staple

Super-L carpet rayon staple, made by American Viscose Corp., is now available in solution-dyed form. Called Colorspun, the staple comes in eight basic colors.

Prices are 46¢ per lb., except for dark brown, which is 48¢ per lb. These prices compare with natural Super-L staple at 35¢ per lb.

Recent tests showed that carpets made from Super-L staple soil 35% less and wear about 108% longer than regular rayon floor coverings.

More Nonwoven Fabrics

Checker-pattern barbecue cloths are being added to its production of nonwoven draperies by Lustron, Inc. The material is made from rayon staple, and 36x72-in. cloths sell for 69¢.

Fabrics with Long Flex Life

A new opaque coated fabric called Armalon has been developed by Du Pont.

Designed primarily as a heavy-duty camera bellows material, the fabric remains pliable in hot and cold temperatures and possesses an unusually long flex life.

Improved Polyethylene Fibers

Reeves Bros., Inc., has developed a polyethylene fiber that resists deterioration. Original polyethylene fibers were subject to degradation more pronouncedly than other man-made fibers.

This degradation under the effect of ultraviolet radiation occurs in the presence of air and gradually breaks down the polymer chain to create brittleness in the material.

FIBERS YARNS FABRICS

The new Reevon filaments can now be used for outdoor purposes, and properties such as hand and elasticity have been improved.

Gulistan Adds Chromspun

Lofted Chromspun is the latest fiber to be used in the Gulistan line of carpets. Called Saddle Rock, the carpet comes in six tweed tones and sells for $6.95 per sq. yd.

Yarn With 20 Fibers

A blended yarn spun by a British mill contains 5% each of acetate, Acrilan, Dynel, cuprammonium rayon, Fibrolane, nylon 6,6, Orlon, silk, Terylene, Tussah silk, viscose, wool, Thermovyl, Celon, Grilon, Perlon, Courpleta, Tricel, and Courtelle.

The yarn was produced as an experiment, but several knitters are interested in it because of its silk-like hand. The blend was found to be extremely easy to spin, but no mention of dyeing problems has been made. The cost is reported to be about the same as a 100% Dacron staple yarn.

Rayon Damask

A line of rayon damask mattress-cover material is being marketed by Burlington House Fabrics Co. Pliolite latex is used as a bonding agent to hold the warp and filling threads securely in place.

The latex is applied by a knife-coating operation to gray or unfinished fabric. The coated fabric is then dried and stretched to width on a tenter. A cooling period follows, and the fabric is batched.

Protective Fabric

A fabric originally developed to protect men and equipment from heat and weather on missile test stands is finding use as chafing pants for divers.

The fabric is made by Narmco Adhesives & Plastic Co. from flame-resistant materials and extends the wear life of chafing pants to more than a year. Canvas chafing pants last only a few weeks.

Fabric-Paper Combination

Dura-Weve, a fabric-paper combination introduced last year by Scott Paper Co., is now being used in tablecloths, napkins, and aprons in both solid colors and checks.

Dura-Weve is made by bonding rayon scrim, a lightweight open-mesh net-like fabric, between two plies of paper to add strength and flexibility.

Knitted Carpet

Roxbury Carpet Co. has a knitted carpet in its new line. Called Woodwind, the new carpet is made from all wool in five tweed effects and costs $10.95 per sq. yd. in 12-ft. widths.

Another carpet in the Roxbury line is made from a blend of 80-20 Acrilan-Verel. This carpet, called Prelude, is woven in a highly textured floral pattern in seven colors and costs $11.95 per sq. yd.

Knit-Like Woven Fabrics

Swiss weavers are developing woven fabrics with a knitted look for export to the U. S.

Most fabrics are made from polyester fiber blended with cotton or linen. One fabric with a textured knitted look, intended for shirts, shorts, and jackets, is made from a 77-23 linen-Terylene blend.

Bacteriastatic Nonwoven

A nonwoven fabric containing a bacteriastatic agent has just been invented. The web binder is an internally plasticized polyvinyl acetate, and a small amount of quaternary ammonium salt is distributed throughout the fabric.

Fur-Like Fabrics

A new fur-like fabric introduced in England is made of fibers with different shrinkage characteristics. The result is a fabric with long, fine guard hairs that cover a dense underpile and more closely resembles real furs than present fur-like fabrics.

The fabric can be knitted or woven. The outer pile is constructed from fibers that do not shrink, such as mohair or nylon; and the underpile is made from man-made fibers with high shrinkage properties.

Celaire-Carpets Introduced

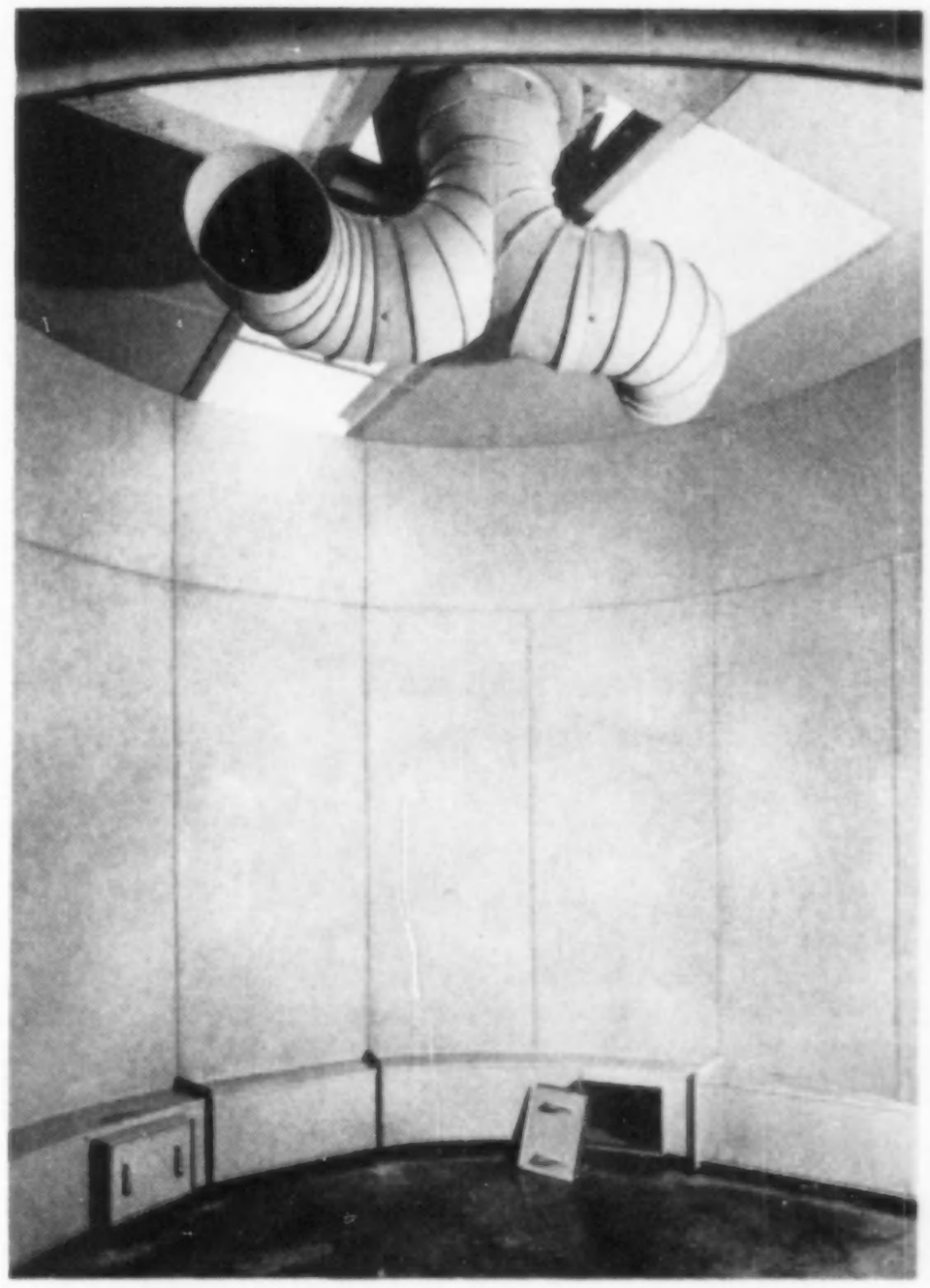
Carpets made of Celaire twist-set acetate and nylon were shown for the first time at the National Home Furnishings Show in Chicago in mid-June.

Celaire is a trademark of Celanese Corp. of America to identify the acetate content of carpets used in conformity with a Celanese licensing agreement. Bigelow-Sanford Carpet Co., Croft Carpet Mills, Katherine Rug Mills, G. H. Rauschenberg Co., and Suwanee Carpets, Inc., have been licensed so far.

Dacron Dimity

Double dimity-weave fabrics in 100% Dacron have been developed by L. R. Moulton Co. for use in ruffled and tailored curtains. The fabric is claimed to be quick drying and needs little or no ironing.

EQUIPMENT AND SUPPLY NEWS

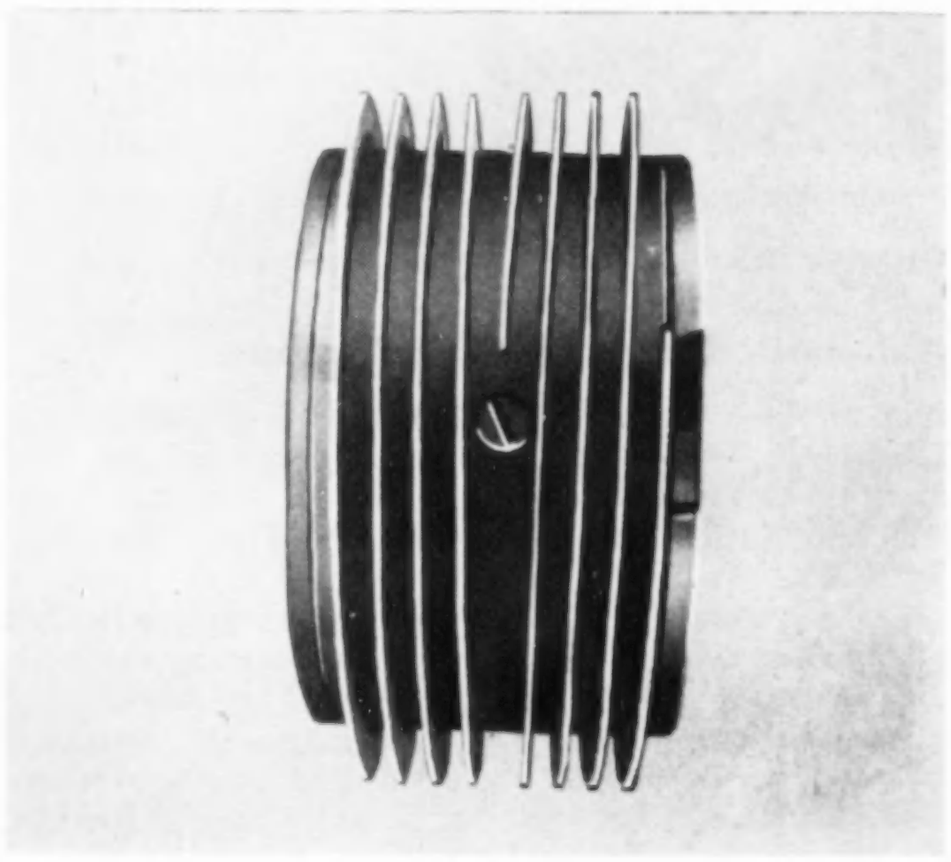


Wool Blending System

A blending system engineered by Atkinson, Haserick & Co., Framingham, Mass., is semimechanical. Picked, unoiled wool is blown into circular bins that hold 5,000 lbs. each.

A rotary spreader distributes the stock. By opening ports at the bottom of the bin, the stock is reblended into a second circular bin and then into a second picker. The stock is oiled by a Vortex oiler and then baled or blown to bins behind the card feeders.

Circle T-1 on Reader Service Card



Card-Grinding Head

The Micro-O-Grind head that fits on conventional grinding shafts has been developed by Benjamin Booth Co., Allegheny and Janney Sts., Philadelphia 34, Pa., to reduce nep count 40%, reduce grinding time to less than 30 mins., and to improve blending. The method is especially suited for cotton and woolen mills with difficult blends or noily stock.

The head has spiraled abrasive disks to take off the heel of the wire, and it leaves a needle-like point that holds the fibers long enough to be thoroughly carded but does not tear the fibers. The point is smooth enough to release the stock easily, but it will not let the fibers escape without being carded.

The needle point can be applied to any type of card clothing. Stripping of cotton cards is done once per shift, and woolen cards need to be stripped only once per month.

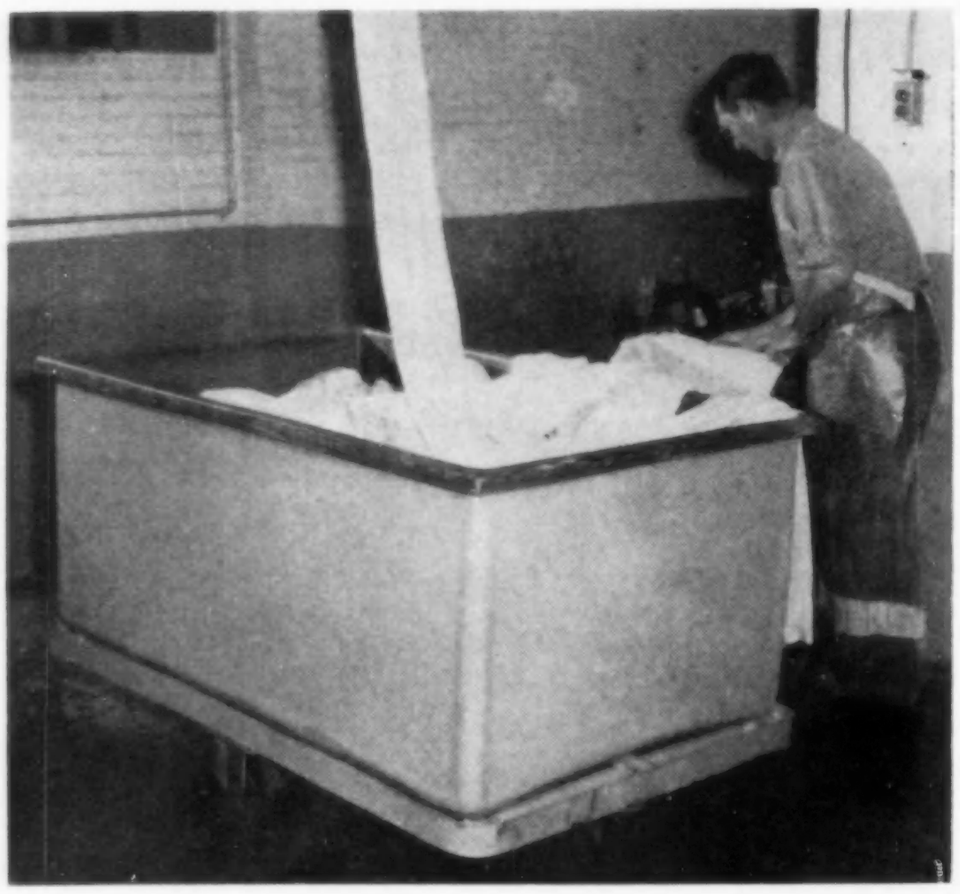
Circle T-2 on Reader-Service Card

Warp-Size Adjuvant

Polymerized acrylic resin is the base of a warp-sizing material offered by Alco Oil & Chemical Co., Trenton Ave. & Williams St., Philadelphia 34, Pa.

Alcogum WS-25, as it is called, is readily soluble and is recommended for warps made from spun man-made fibers. It is of low viscosity and can be readily scoured out of sized fabrics.

Circl T-3 on Reader-Service Card



Plastic Dyehouse Trucks

Resin reinforced with Fiberglas is used to form the bodies of dyehouse trucks manufactured by Carl N. Beetle Plastics Corp., Fall River, Mass., a subsidiary of Crompton & Knowles Corp., Worcester, Mass.

The pipe framework is totally enclosed in the resin-glass fiber material to protect it against the corrosive effect of dyehouse liquors. Perforations in the crowned bottoms of the truck drain off excess water. The bottoms can be left unperforated if the trucks are to be used for liquor storage.

Slotted construction is also available when the trucks are to be used to hold filling yarn that is to be steamed. Wheels can be placed as specified by the customer and can be furnished in cast iron, plastic, or steel.

Trucks made of Bonate, as it is called, are easily cleaned and are protected from damage by a built-in guard rail. Repairs are easily made with a similar material furnished by the manufacturer.

Circle T-4 on Reader-Service Card

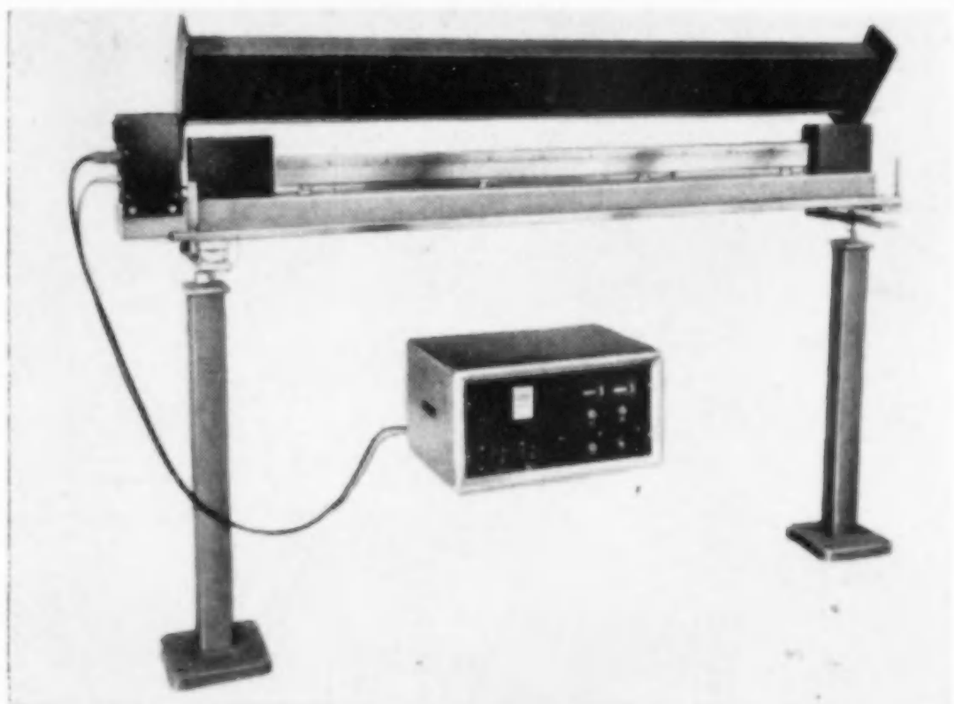
Spun-Yarn Inspector

An automatic inspector for controlling the quality of worsted, wool, cotton, and man-made-fiber spun yarns, made by Lindley & Co., Inc., 248 Herricks Road, Mineola, N. Y., can also be used for filament yarns.

When used in the warping operation, the device causes the warper to stop when defects such as slubs, neps, lint, and double ends occur. The yarn sheet is located just below the light beam, and only the defect protrudes into the beam to trigger the electronic control unit.

The inspector is available in warp widths of 8, 21, 36, 42, 54, 72, 84, and 90 ins. Separate counters count the length and size of the defects.

Circle T-5 on Reader-Service Card



Automatic Hosiery-Dyeing Machine

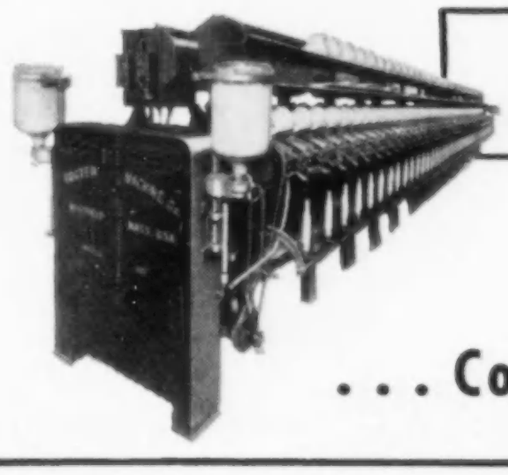
A machine that preboards, scours, dyes, and finishes women's nylon hosiery has been developed by Ets. Maurice Heliot, 6 Rue Rothier, Troyes, France. International Textile Machine Co., 403 N. Tryon St., Charlotte, N. C., is the U. S. agent.

All operations are automatically timed and controlled in variable cycles. Conventional processing materials can be used in the dyeing and finishing operations.

The machine preboards in a separate step. It scours and dyes the hosiery by circulating the liquors over the stockings. Color changes can be made rapidly without dumping water or losing heat.

Productive capacity of the machine is 200 to 250 doz. pairs of hose per 8-hr. shift. Operations are controlled hydraulically through switches and timers. Temperatures are automatically regulated and recorded. The machine occupies a 10x13-ft. floor space.

Circle T-6 on Reader-Service Card

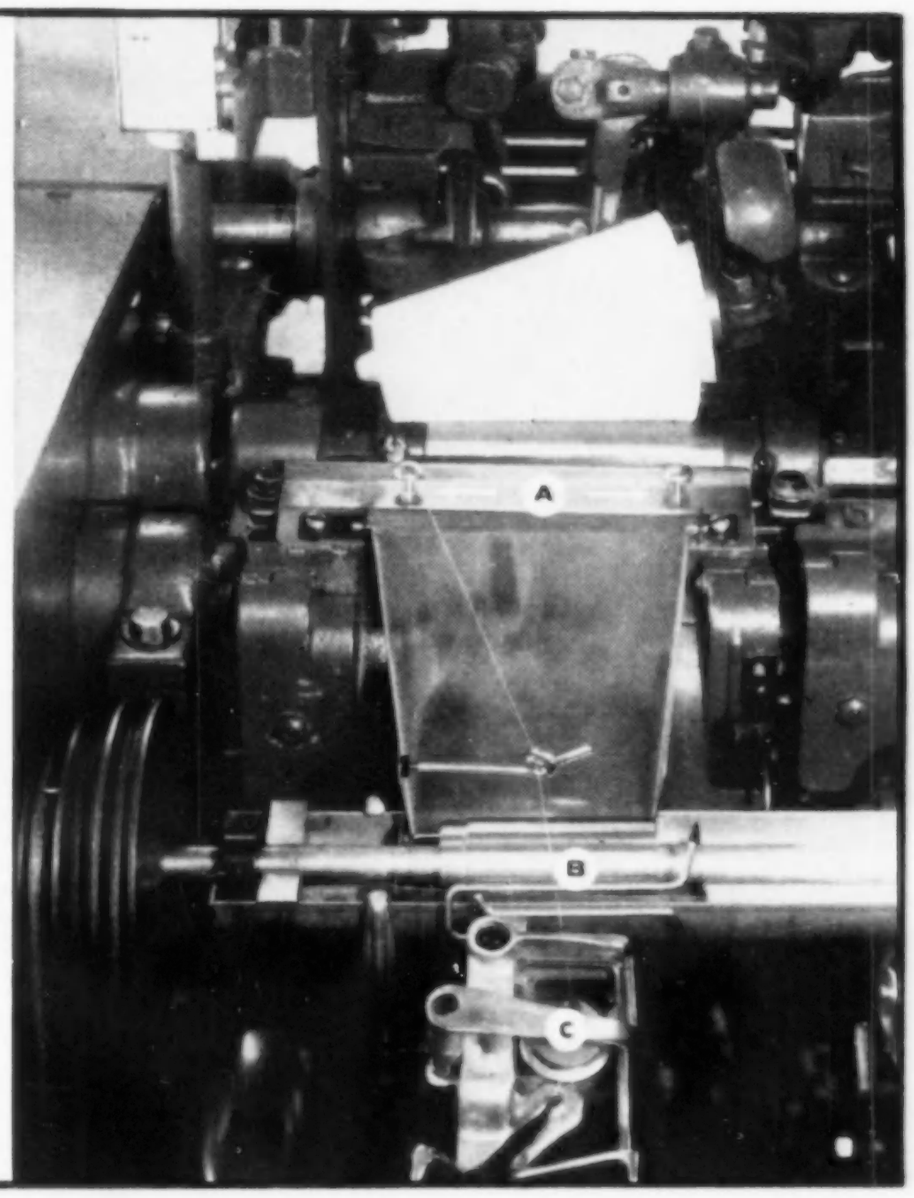


FOSTER MODEL 102-C

For Backwinding Bulk Yarns

. . . Cones that are Kind to Knitting Machines

Cone of Ban-Lon yarn wound on Foster Model 102-C.



Closeup showing mushroom bottoms (A), moistening attachment (B), and tension attachment (C).

The adaptation of the Foster Model 102 for the winding of bulk yarns is one of many examples of this machine's flexibility. The production of cones that are "kind to knitting machines" involves special winding problems. Here's how Foster solves them with the Model 102:

CONE QUALITY is equal to that obtained on the Model 102 with conventional yarns. Increased taper reduces yarn drag and equalizes tension at all cone diameters.

A YARN CONDITIONER (stainless steel) can be supplied with this machine. It applies any kind of emulsion or oil in any degree desired, without sacrificing winding speed — restores normal moisture, gives a soft hand and lubricates the yarn for better knitting.

MUSHROOM PINS, inserted in the thread bars inside of the extremities of the normal traverse (see illustration), prevent overshot and undershot cones.

TENSIONS are made with fine micro-inch finish, hard carboloy inserts, large chrome-plated tension washers and alsimag tension post. They assure snag-free, long life under highly abrasive conditions.

TRAVERSE GUIDES also have carboloy inserts and fine micro-inch finish.

Find out what the Foster Model 102-C Winder will do for YOUR bulk yarns. Ask us to wind some sample cones.

FOSTER MACHINE COMPANY

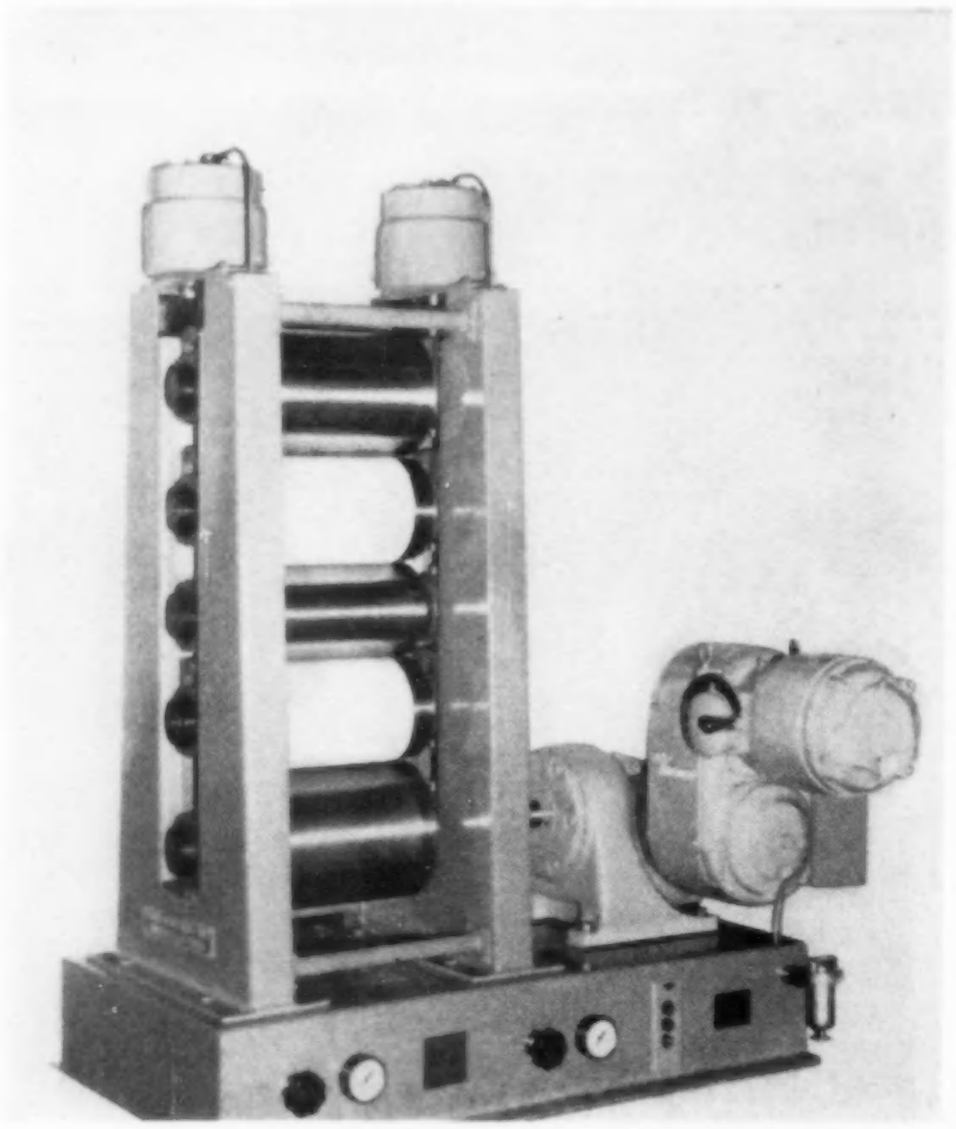
A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

Member of
American Textile Machinery Association

259-8

Southern Office — Johnston Bldg., Charlotte, N. C. • *Canadian Representative* — Ross Whitehead & Co. Ltd., 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario
European Representative — Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Oldham, England.



Laboratory Calender

A five-roll calender that can be mounted on a table top has been introduced by Birch Bros., Inc., 32 Kent St., Somerville 43, Mass.

The unit comes ready to operate and can be supplied with constant- or variable-speed drive. A reversing magnetic starter, full pneumatic controls, and push-button control panel are standard equipment.

Pressure to the rolls is supplied by compressed air. The rolls can be loaded uniformly or with graduated pressure on each side. Loading is infinitely variable up to 500 lbs. per linear inch of face.

Optional equipment includes center wind and friction let-off, supporting stand, and rolls to suit individual requirements.

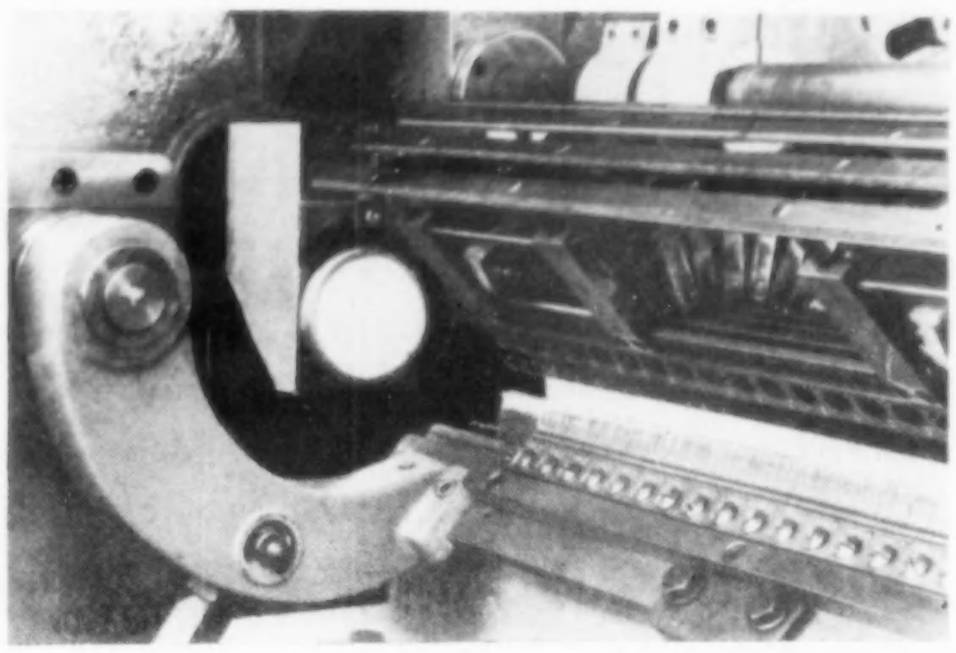
Circle T-7 on Reader-Service Card

Tricot End-Breakage Detector

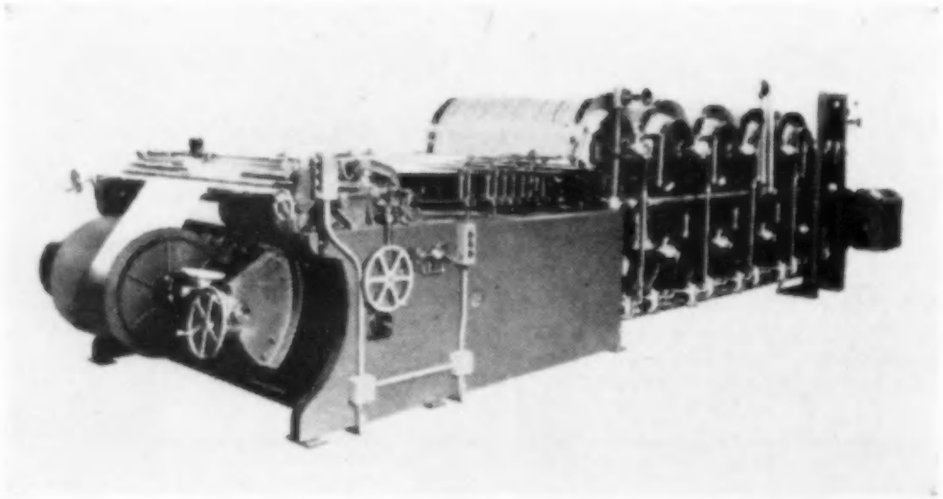
The Knitlite illuminator designed by Meiners Optical Devices Ltd., London, England, consists of a housing with a lamp and a reflector head fitted with a mirror and lens. The light source is a mercury-vapor lamp that is projected through the optical system to the entire length of the knitting elements.

The guide and needle bars are made clearly visible, and the individual needles and threads stand out in bold relief. Dark threads stand out clearly because of the special spectrum of the mercury lamp.

The device can be fitted to all warp-knitting machines and multisection knitting machines without obstruction. Clearer visibility is obtained for inside work such as gating, replacing needles, and setting up new warps. Vac-U-Max, 1 Montgomery St., Belleville, N. J., is the U. S. agent.



Circle T-8 on Reader-Service Card



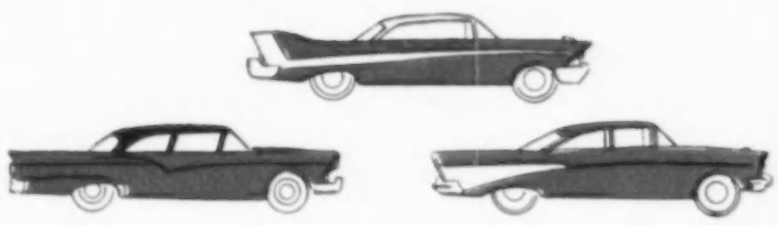
Slasher Traversing Headstock

A slasher head end with a traversing headstock and tailstock has been developed by West Point Foundry & Machine Co., P. O. Box 151, West Point, Ga.

Features of the head end are (1) no arbors project in aisles beyond the slasher frame and (2) wide and narrow loom yarn beams can be centered in the head end; so slashers can be changed from wide to narrow loom beams quickly. Latch-type arbor bearings permit quick loading and doffing loom beams.

Circle T-9 on Reader-Service Card

In automobiles, it's "the big three"



In colored yarns it's

Franklin-Dyed

for:–

QUALITY

We dye exclusively on the Franklin compressible spring. This permits uniform density of packages, which promotes uniform penetration of the dye liquor and uniform shades.

SPECIALIZATION

Yarn dyeing is our specialty. We act as yarn merchants to get dyeing, but we don't dye to make yarn sales. Our 5 plants and our entire organization have but one objective—to provide the best yarn dyeing service available.

CAPACITY

With 5 dye plants, hundreds of package dyeing machines in dozens of sizes and winding equipment to match, we are literally the largest package dyers in the world — ready to dye all types of spun fibres in any quantity.

CONSULTATION

We can help you with your color problems. We have unequalled laboratory facilities, a staff of highly skilled technicians and unequalled experience in time, variety and volume which are at your service.

AVAILABILITY

Our 5 yarn dyeing plants, strategically located in 5 different textile centers, are conveniently yours. Contact our nearest plant or office.

X-ray view of Franklin Package, the "secret" of uniform shades. Don't say "package dyed". Say "Franklin-Dyed".

Franklin Process

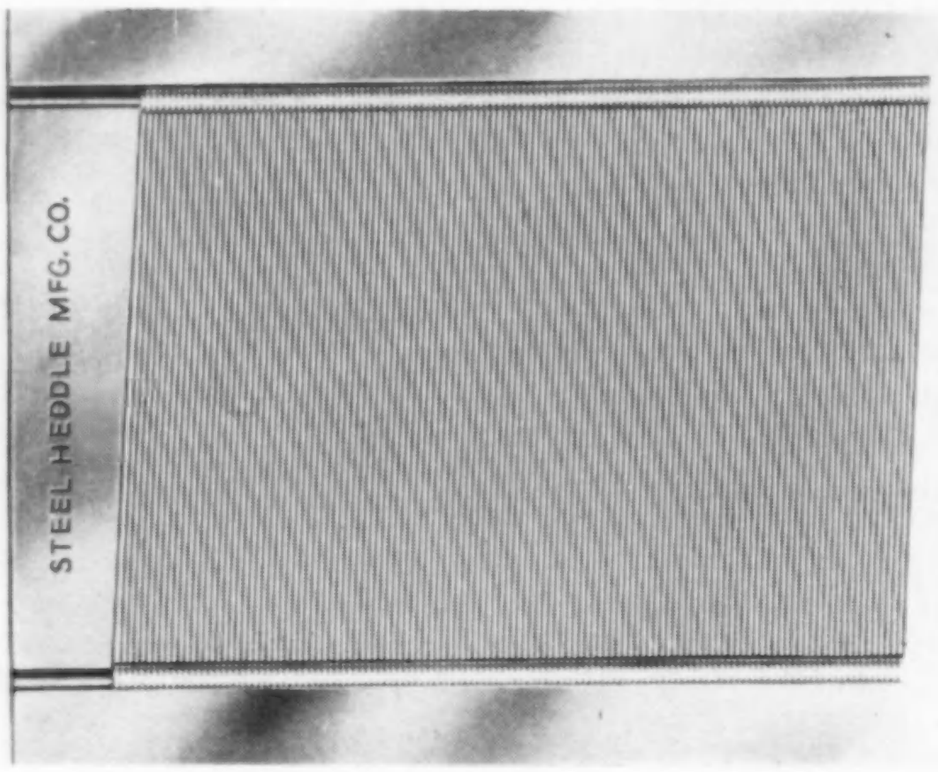
A DIVISION OF INDIAN HEAD MILLS

Dyers of cotton (carded, combed, mercerized) Orlon* (yarn & tow) Acrilan • Dacron** • Ban-Lon® • Helanca • Spun Nylon • Spun Rayon • Blends • Wool and Worsted yarn

Providence • Philadelphia • Greenville
Chattanooga • Fingerville, S. C.
New York Office — 111 West 40th St.

*Trademark for Dupont's acrylic fibre
**Trademark for Dupont's polyester fibre

For more data, write this page number on Reader-Service card. →



Angle-Dent Reed

An angle-dent reed designed to prevent warp streaks has been announced by Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa.

On fabrics where the warp yarn forms straight lines from the whiproll to the fabric selvages, warp streaks result. But with the angle dents, the warp travels the slope of the dent; this action shifts the warp, and every warp end hugs the same side of the dent with every thread evenly spaced. This feature is especially effective on leno and marquisette weaves.

With the warp yarn traversing the angle of the dents, the heddles and drop wires dance continuously; therefore the warp ends are placed in the fabric accurately. Furthermore, if there are unevenly tensioned ends in a warp, the angle dent compensates for the unevenness on the beat-up and eliminates another cause of warp streaks.

The angle-dent reeds can be drawn on drawing-in machines and are available in pitch-band or all-metal construction.

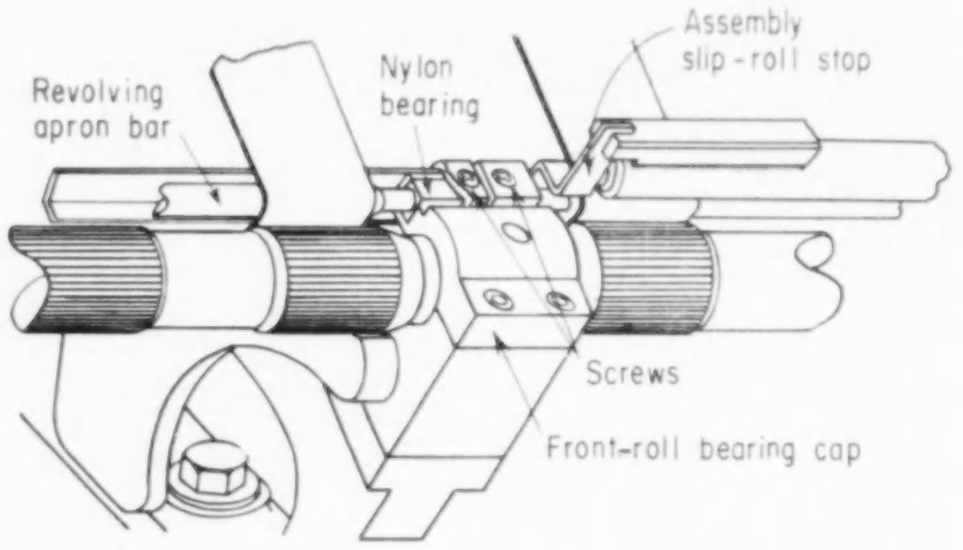
Circle T-10 on Reader-Service Card

Revolving Apron Bar

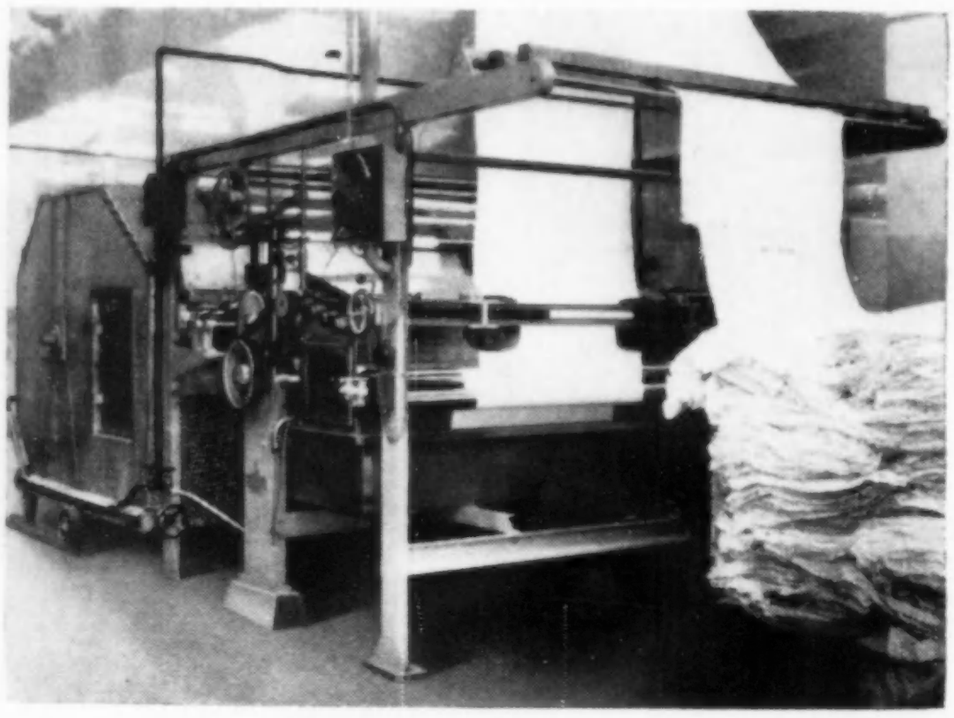
A revolving apron bar for F-5 drafting, announced by Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass., extends apron life by reducing friction to a minimum; the bar revolves freely in nylon bearings.

The smoother-running apron increases over-all efficiency of the drafting operation. The change-over is made easily and quickly.

Parts to apply the apron bar are: the apron-bar roll, lintproof long-wearing nylon bearings, slip-roll stop assembly, and front-roll bearing cap. The nylon bearings require no lubrication other than one light film of oil to break them in.



Circle T-11 on Reader-Service Card



Circle T-12 on Reader-Service Card

Open-Width Bleaching Machine

An open-width bleaching machine that is designed especially to use sodium chlorite has been announced by A. B. Svenska Textilmaskinfabriken, Goteborg, C. Sweden. Ernest L. Frankl Associates, 515 Madison Ave., New York 22, N. Y., is the U.S. agent.

Goods of any type suitable for chlorite bleaching are first impregnated with a metered amount of bleaching solution, squeezed out, and then wound on a roll in an enclosed portable reaction chamber. Steam is applied to the goods prior to entering the chamber, and additional steam furnished to the chamber raises the temperature of the fabric to the point necessary for efficient bleaching.

The reaction chamber will carry approximately 7,000 yds. of 4.00-yd. goods. When the chamber is loaded, it can be moved and an empty chamber run into place behind the saturator. Two or more reaction chambers thus provide practically continuous operation.

The problems of corrosion that occur when sodium chlorite is used as a bleaching agent have been minimized by lining the reaction chamber with aluminum and by careful metering of the bleaching solution, which is activated by a product supplied by the machine manufacturers.

Smith-Drum In-Line system at Woodside Mills, Liberty, S.C.

Stainless Steel dye beams for use with the Combination Beam and Package Dyeing Machines.

Cost Conscious Mills Save with Modern Smith-Drum Equipment

In-Line Multiple Kier, Beam and Package Dyeing Machines

Dyeing procedures are simplified with Smith-Drum In-Line Machines. All beams or carriers are dyed in the *same* bath under identical conditions of flow, pressure and temperature . . . uniformity is assured.

Installation is simplified. There's only one bath for from 1 to 8 kiers. All pipe connections and flanges are American standard for complete interchangeability. Shut-offs permit dyeing less than full loads. Distribution of additions to the dye bath are absolutely uniform.

And you get the priceless, practical experience of Smith-Drum engineers. Smith-Drum service doesn't stop with the sale of a machine — our engineers are always ready and willing to help you with your problems.

If textile processing is your business — dyeing, extracting or drying — look to Smith-Drum for the best in modern, cost-saving equipment.

Cut Production Costs with These Efficient Smith-Drum Machines

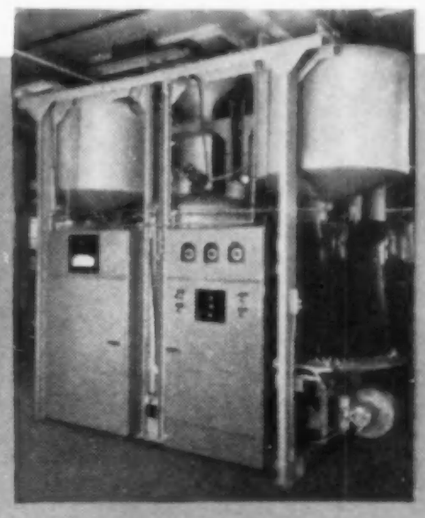
Rapid Package Dryers
Paddle Sweater Dyers
Rotary Hosiery Dyers
Circulating Skein Dyers
Cabinet Package Dryers
High Temperature Package Dyers
Mechanical Package Extracting Machines
Single Package Sample Dyers
Package Formers

Smith-Drum Division

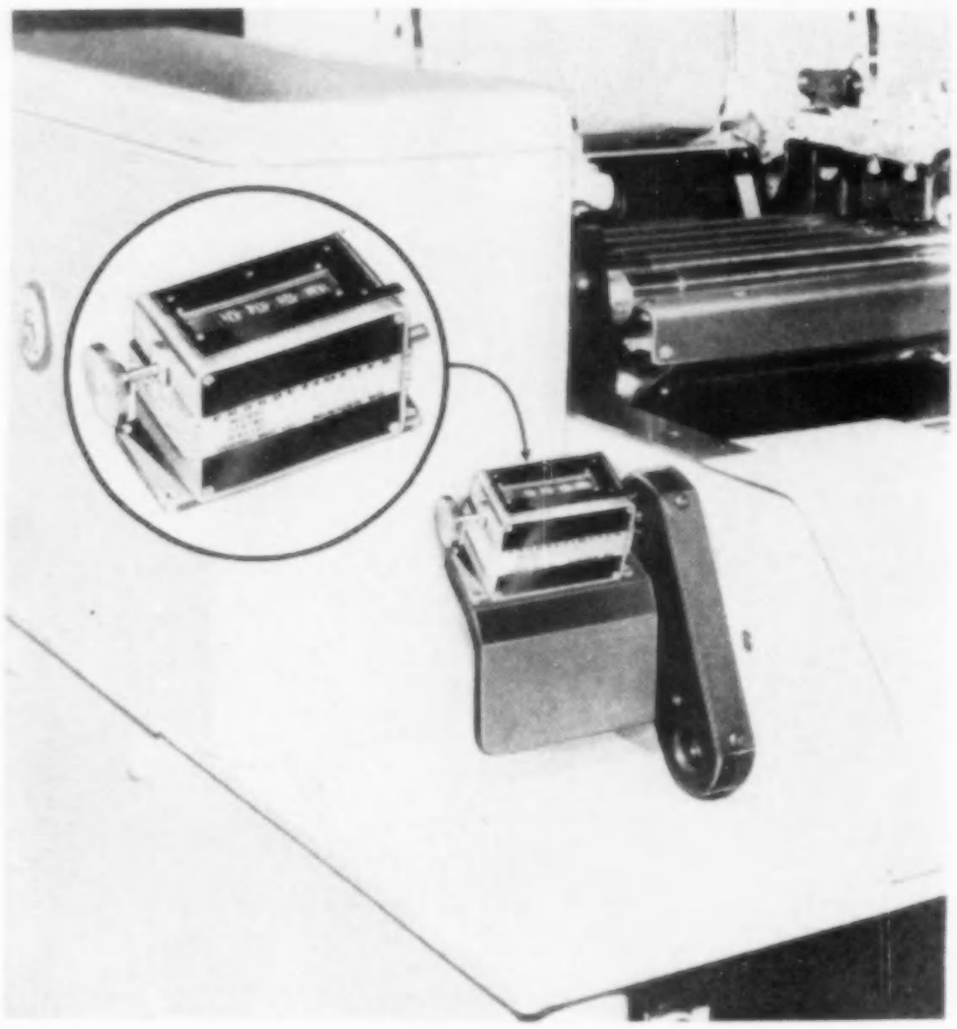
TURBO MACHINE CO., LANSDALE, PA.

Southern Sales Representatives: Parrott & Ballentine, Greenville, S.C.

Turbo-Brewin Machine, a complete hosiery processing plant in one machine. Automatically boards, dyes and finish boards 60 stockings at one time. There are 2 groups of 60 forms each. One group is stripped and reloaded while the other is being processed, this is the only manual operation. The Turbo-Brewin Machine is part of the Turbo Family of precision engineered equipment for the processing of hosiery — preboarders, finish boarders, a combination of both, and boardless dryers. Complete information and data sheets on request.



For more data, write this page number on Reader-Service card. →



Drawing Yardage Counter

A predetermined yardage counter for drawing frames has been developed by Durant Mfg. Co., 1929 N. Buffum St., Milwaukee 1, Wis. The counter has a push-in reset shaft that engages a stop when the counter has been reset; this feature prevents improperly resetting the counter with the resulting over-run and possible frame damage.

Model 4-SP-7-1-RS is geared to record in yards from the delivery roll of the drawing frame. It accurately and positively knocks off the equipment at the preset yardage.

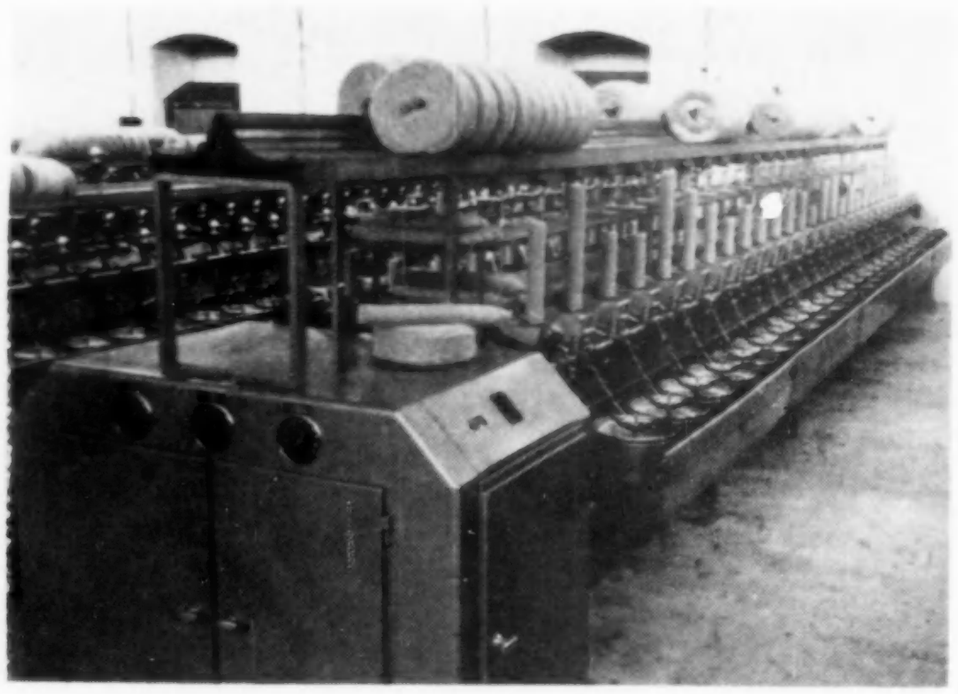
Circle T-13 on Reader-Service Card

Pot Spinning Frame

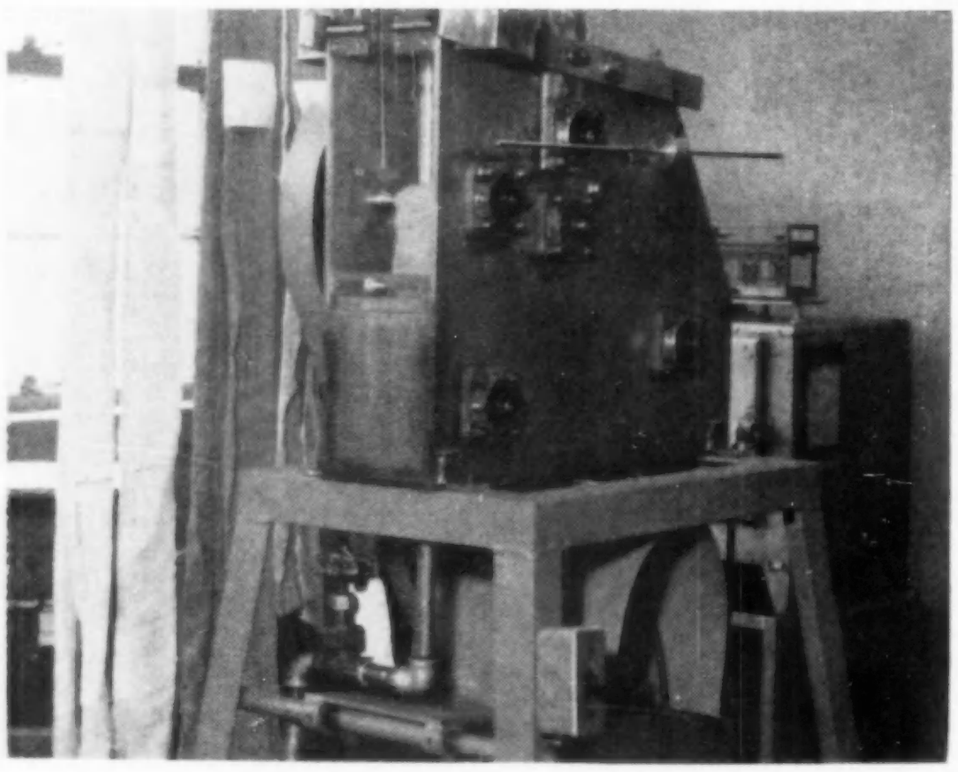
A pot spinning frame for coarse yarns has been announced by Georges Kapps & Fils, Cours (Rhone), France. The machine spins any natural or man-made fiber and waste, regardless of quality.

The machine is produced in four different models for spinning large bobbins of different densities and shapes for conventional and circular looms. Each spindle is independent, and speed can be varied from 1,000 to 2,600 rpm.

The thread-guide arm can be regulated to vary the diameter of the bobbin and the tension on the yarn. A double clutch permits the can to turn before the spindles start to revolve. An automatic knock-off motion stops the spindle when the bobbin reaches the desired size.



Circle T-14 on Reader-Service Card

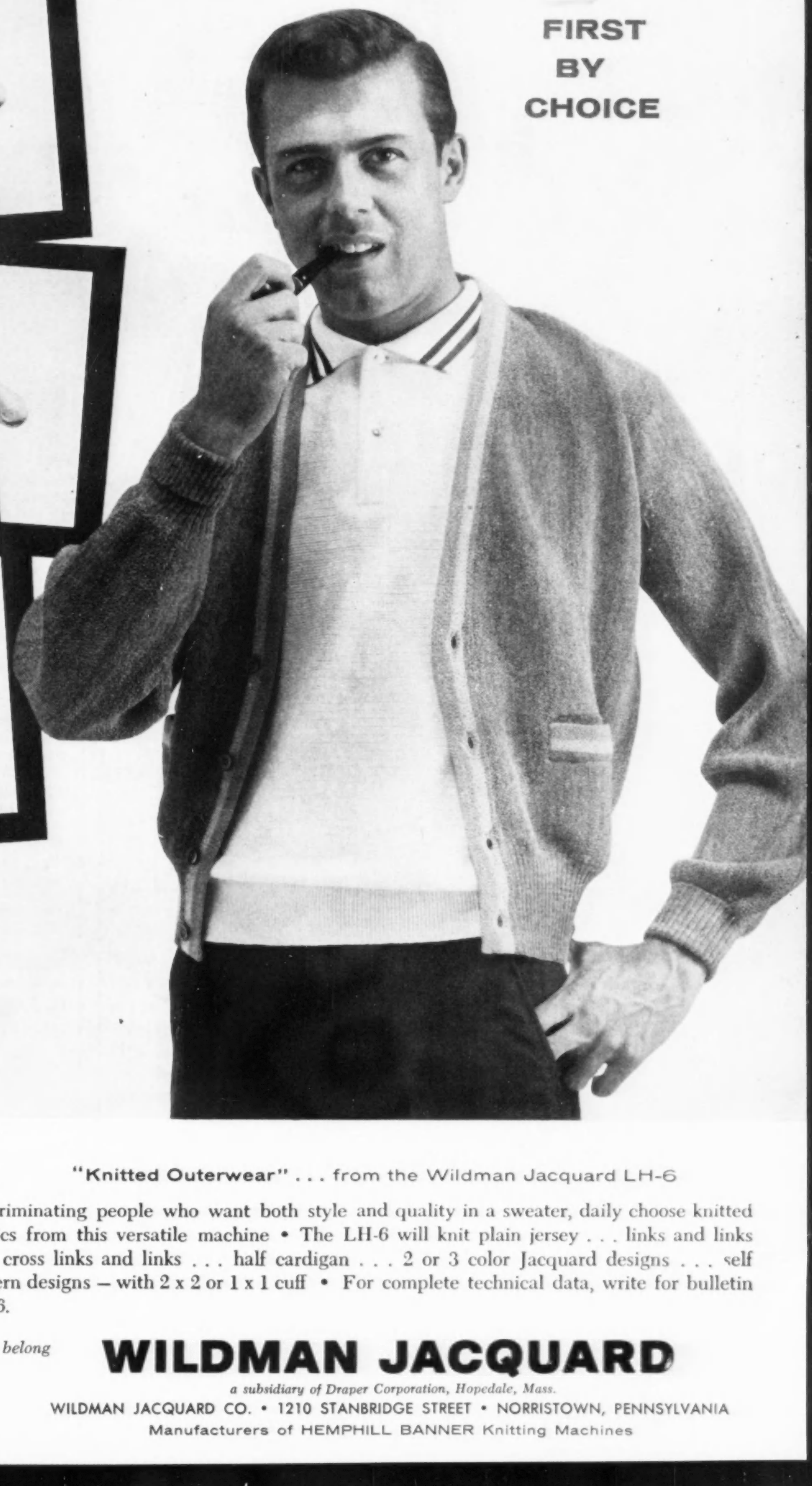


Laboratory Fulling Machine

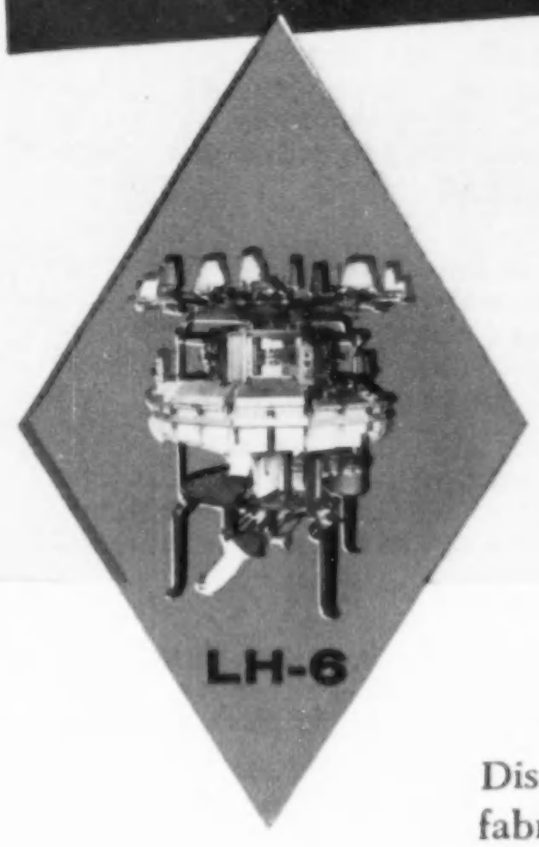
A laboratory wool-fulling machine has been constructed by Southern Research Institute, Birmingham 5, Ala., for evaluating chemicals used for wool fulling or felting. The machine may also be used to scour and bleach cotton and man-made fabrics. Transparent plastic top and doors on the ends of the machine permit visual inspection of the operations being performed.

Circle T-15 on Reader-Service Card

CONTINUED ON PAGE 128



FIRST
BY
CHOICE



"Knitted Outerwear" . . . from the Wildman Jacquard LH-6

Discriminating people who want both style and quality in a sweater, daily choose knitted fabrics from this versatile machine • The LH-6 will knit plain jersey . . . links and links . . . cross links and links . . . half cardigan . . . 2 or 3 color Jacquard designs . . . self pattern designs – with 2 x 2 or 1 x 1 cuff • For complete technical data, write for bulletin LH-6.

All day long . . . sweaters belong

WILDMAN JACQUARD

a subsidiary of Draper Corporation, Hopedale, Mass.

WILDMAN JACQUARD CO. • 1210 STANBRIDGE STREET • NORRISTOWN, PENNSYLVANIA

Manufacturers of HEMPHILL BANNER Knitting Machines

Synthetic Yarns

Package dyed by GLOBE

- ORLON
- DACRON
- NYLON
- ACRILAN
- ARNEL
- ZEFRAN
- TEXTRALIZED YARN
- BLEND YARNS

For fast colors, and superior knitting and weaving qualities, you can rely on Globe package-dyed synthetic yarns.

Globe does package dyeing on tubes, skein and warp dyeing and bleaching, warp mercerizing and sizing.

Yarns we process include cotton, rayon, worsted, nylon, linen, blend and novelty yarns, and all *synthetics.*

Globe DYE WORKS CO

1865 1958

4500 WORTH STREET, PHILADELPHIA 24, PA.

Jefferson 5-3301

NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Opening machinery — An automatic cleaning unit for No. 11 dust and waste extractor, especially useful for cleaning 1957 cotton, described in a folder from Saco-Lowell Shops. (F-1)

Pin drafters—Job report No. 21 on equipment operated by Lehigh Spinning Co. from Warner & Swasey Co. (F-2)

Slitter and rewinder—Bulletin on the Hobbs slitter and rewinder for nonwoven fabrics from Hobbs Mfg. Co. (F-3)

Web-guide control—That operates on the hydraulic-jet principle described in a booklet from North American Mfg. Co. (F-4)

Industrial rolls — New catalog described as a complete roll-buying guide from Rodney Hunt Machine Co. (F-5)

Motor application guide — How to match motor characteristics and load requirements explained in a booklet from Century Electric Co. (F-6)

Immersible motors—Construction features and specifications described in a folder from Louis Allis Co. (F-7)

Production sewing—A new house organ, "Production Sewing," devoted to industrial sewing machines from Singer Sewing Machine Co. (F-8)

Selective-speed drives—Bulletin gives description and advantages of drives with adjustable-voltage systems. Century Electric Co. (F-9)

Mercury switch—Data sheet describes nylon-enclosed switch that is resistant to water and chemicals. Micro Switch Div., Minneapolis-Honeywell Regulator Co. (F-10)

Knitting machines—Products that can be made by circular fabric-knitting machines illustrated in a bulletin from Scott & Williams, Inc. (F-11)

Bag packager—Bulletin describing how packager can cut packaging labor cost 80% is available from Errich International Corp. (F-12)

Tensile-strength tester — Technical data related to automatic electronic testing machinery given in a booklet from Zwick & Co. K.G. (F-13)

Fans—That combine tubular compactness with centrifugal performance

Here is good news for everyone who is watching cost control . . . or should be!

Non-Staining THILCO-TUF — saves Textile Manufacturers thousands of dollars yearly on heavy duty wrappings of carpets, upholstering and bulk fabric shipments. It is a tough, *duplex type single wrap* that eliminates costly double wraps and permits wrapping *only once* to get all the protection desired. THILCO-TUF features two sturdy kraft outer sheets bonded together with an exclusive blond laminant which *does not stain!* It is tough, pliable and extremely resistant to punctures, tears, moisture, grease and oils. THILCO-TUF is available in a range of standard grades, reinforced or poly-coated to meet every protection requirement — Plain or trademark decorated to any needs.

Write For Free Sample Kit

Tells you all about this Thilco exclusive protective wrap. Contains samples of 4 standard utility and extra heavy grades—Plain, Reinforced, Poly-coated, and Print-Decorated

THILCO HAS A FULL RANGE OF TEXTILE WRAPS

Thilco's complete line of Textile Papers includes lightweight Krafts, tissues and other wraps in numerous weights and grades in single and duplex combinations. ALL THILCO PAPERS CAN BE PRINT-DECORATED for Brand Name identification and promotional advantages.

THILCO
Functional Papers
THILMANY PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN

OFFICES
NEW YORK
CHICAGO
BOSTON
DETROIT
CINCINNATI

For more data, write this page number on Reader-Service card. —►

Whatever you buy

IN TEXTILES "made in U.S.A."

gives quality you can trust

Stickers for your mail are offered at no charge.
Large quantities at cost as a public service.

We invite you
to put your
local **S-W** man
on the SPOT

He can **SPOT** *trouble and* **STOP** *wasted time*
for recovering rubber rolls if you
will use the S-W Roll-Guard Plan.

S-W INC.

Ask him to prove this
in your mill, on your machinery, this month.

STOWE-WOODWARD, INC. Griffin, Georgia Newton Upper Falls, Mass. · Neenah, Wisconsin

NEW LITERATURE Continued

described in a catalog from Dryer Electric Corp. (F-14)

Winding—Bulletin No. 126 tells how a mill reduced loom stops and improved winder efficiency. Universal Winding Co. (F-15)

Temperature controls—Described in a condensed catalog from Fenwal, Inc. (F-16)

Pumps—High-pressure zero-leakage and general-process pumps described in two bulletins from Chempump Corp. (F-17)

Power drive—Selection is simplified by a special code used in 64-page catalog from Sterling Electric Motors, Inc. (F-18)

CHEMICALS & SUPPLIES

Synthetic waxes—Catalog gives properties of waxes and suggested uses. Glyco Products Co., Inc. (F-19)

Water-soluble gums—Handbook on Methocel gives technical information and use data. Dow Chemical Co. (F-20)

Surface-active agents—A 40-p. technical bulletin on adducts of nonylphenol or tridecyl alchohol with ethylene oxide from Jefferson Chemical Co., Inc. (F-21)

Chemical products—A booklet to guide manufacturers in selecting chemicals to meet government specifications has been issued by Borden Chemical Co. (F-22)

Color trends—Illustrated report on color trends during the last 25 years from Faber Birren & Co. (F-23)

Gasketing material—Booklet describes new cork gasketing material said to eliminate seepage of liquids and gaskets. Armstrong Cork Co. (F-24)

Benzoguanamine—Technical bulletin describes reaction with formaldehyde in the production of resins. Rohm & Haas Co. (F-25)

Polyethylene packaging for textile products—Described in a folder from Shellmar-Betner Flexible Packaging Div., Continental Can Co. (F-26)

Floor wax—Seven new dirt-resistant waxes described in a folder from Multi-Clean Products, Inc. (F-27)

Pallet boxes—Brochure shows how wire-bound pallet boxes are used. Wirebound Box Mfg. Assn. (F-28)

Lubricant coatings—The preparation of metal surfaces for application of resin-bonded lubricant coatings ex-

Facts about COTRON*

COTRON fabrics offer these important selling advantages:

• Richer Lustre • Improved Light Fastness • Better Drape
• Whiter Goods • Brighter Colors • More Luxurious Hand
• Better Definition of Print Pattern • More Even Appearance

These are some of the many important advantages consumers everywhere are learning about COTRON, the new cotton-rayon blend. The American Viscose Corporation has embarked on a thorough promotion program that's bringing honest-to-goodness results —big 4-color double-spread national magazine ads, trade ads, complete department and specialty store promotions, window and in-store displays, dealer mat ads, statement inserts—*the whole works!*

Yes, people everywhere are getting to know about COTRON—and already they're asking for goods tagged with the COTRON tag.

Get your share of the ever-increasing demand for COTRON—investigate COTRON now!

In wash and wear, resinated COTRON compared to resinated all-cotton fabrics shows

• Greater strength after repeated laundering
• Marked improvement in strength retention after repeated laundering with chlorine bleach

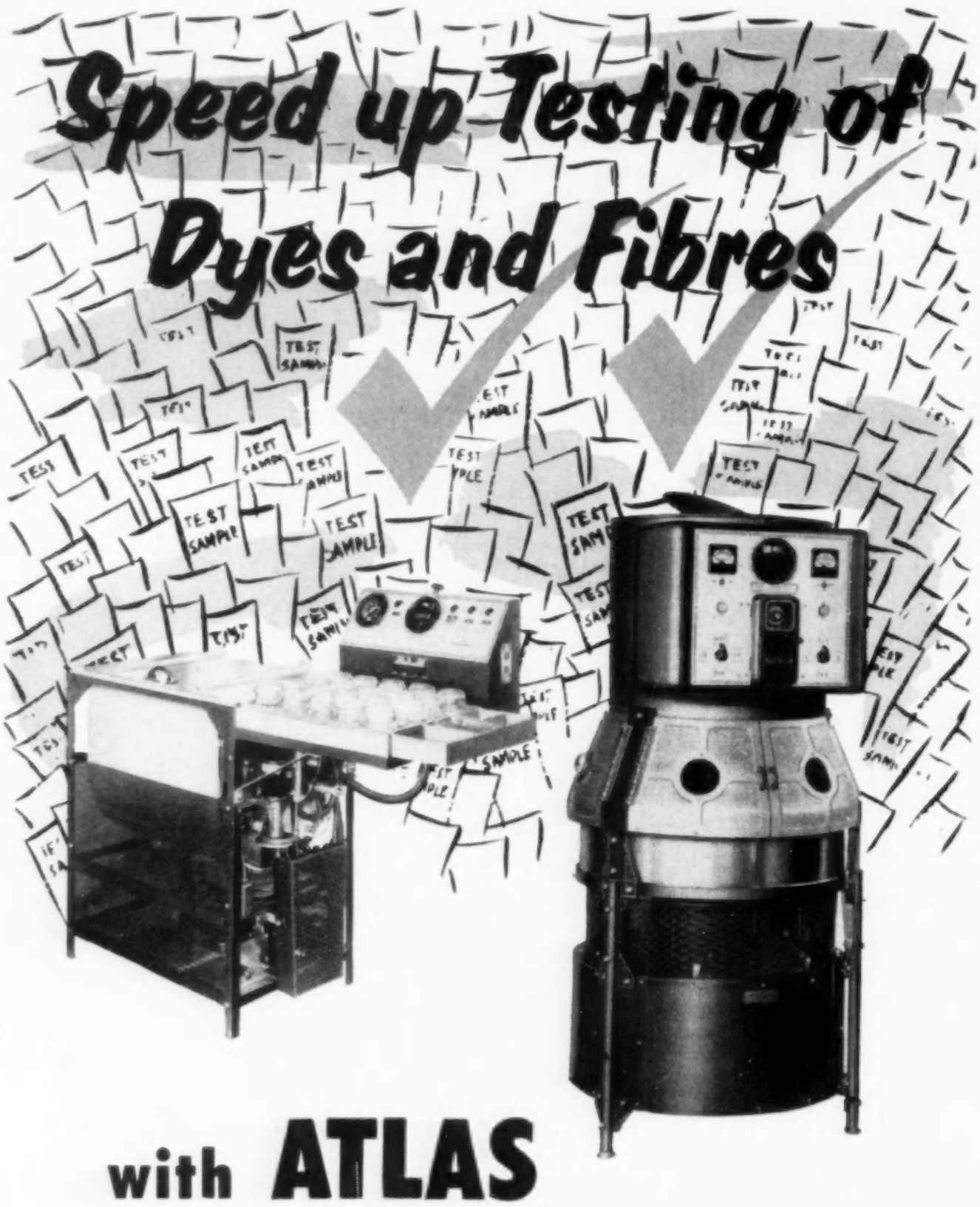
The Technical & Textile Service Department of the American Viscose Corporation is pleased to make available to finishers everywhere its vast store of information, experience and know-how regarding COTRON. A competent technical representative is at hand at all times to assist finishers with their COTRON applications.

* a fabric of cotton and AVISCO® rayon

AMERICAN VISCOSE CORPORATION
350 Fifth Avenue, New York 1, N. Y.

*Trademark of the American Viscose Corporation for fabrics made of cotton and Avisco® rayon

For more data, write this page number on Reader-Service card. →



with **ATLAS**

LAUNDER-OMETERS® FADE-OMETERS®

Mr. George O. Linberg, president of the A.A.T.C.C., in an address at the winter meeting of the Piedmont section, A.A.T.C.C., Greenville, S.C., called attention to the very large number of tests required for a complete evaluation of the qualities of newly developed dyes and fibers.

In stressing the intricacy of testing, Mr. Linberg quoted from the Oct. 1953 issue of "Dye Lines" by American Cyanamid Co., "to test one new dye completely would take about 45,000 tests; to test a new fiber completely, 1,600,000 individual tests are needed. A new dye should be given 25 fastness tests on 225 fiber combinations, each one dyed by four different dyeing methods at two depths of shades. To test a new fiber, Mr. Linberg explained that 500 dyes should be used for 25 fastness properties in 16 combinations with other fibers, dyed by four different methods and at two different levels of concentrations."

Not only are there many new fibers but also a great many fiber blends that make the testing job an ever increasing volume procedure.

The Atlas Launder-Ometer and Fade-Ometer were conceived and developed to test dyes and fibers with speed and accuracy.

Write for bulletin giving complete technical information.

Sales representatives in principal cities throughout the world.

ATLAS ELECTRIC DEVICES COMPANY

4114 North Ravenswood Ave., Chicago 13, Ill., U.S.A.

plained in a 24-p. book from Alpha-Molykote Corp. (F-29)

Syloid silicas—Chemical and physical properties and applications of 11 micron-size silica products given in a booklet from Davison Chemical Co. (F-30)

Silicones—Major silicone products and some of their uses discussed in 8-p. catalog from Silicone Products Dept., General Electric Co. (F-31)

MAINTENANCE & ENGINEERING

Bearing units—List prices and specifications for pillow and flange blocks and ball bearings given in a catalog from Browning Mfg. Co. (F-32)

Motor couplings—Folder describes low-cost geared coupling for motors. Link-Belt Co. (F-33)

Cast-iron pulleys—Catalog lists and gives prices of all standard pulleys and accessories manufactured by Hewitt-Robins, Inc. (F-34)

Self-locking clinch nuts—An 18-p. design manual (No. 5803) tells about standard and miniature clinch nuts. Elastic Stop Nut Corp. of America. (F-35)

Steam and water mixer—Bulletin describes line of thermostatic mixers that provide water in the 160° to 200° F. range. Leonard Valve Co. (F-36)

Electrical feeder system—A 24-p. technical booklet describes the operation and application of a 225- to 1,000-amp. plug-in busway with aluminum conductors. Distribution Assemblies Dept., General Electric Co. (F-37)

Lubrication—Vol. 44 of "Lubrication" tells how laboratory investigation solved a number of practical operating problems caused by bad lubrication. Texas Co. (F-38)

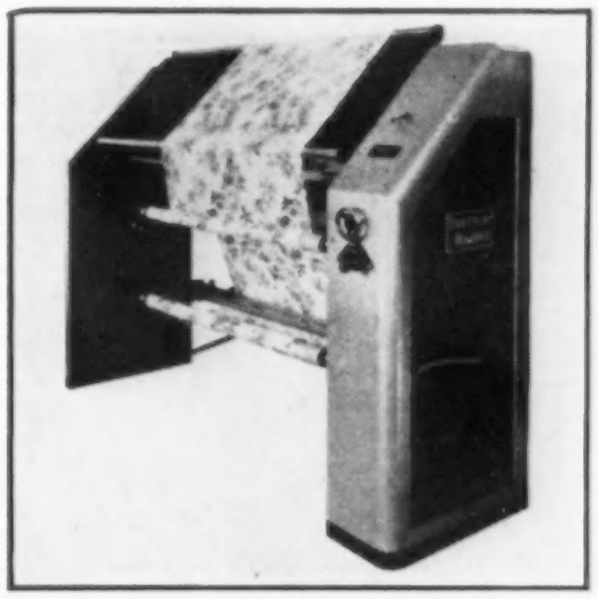
Water treatment—Bulletin 4433 lists water impurities and methods of treatment and recommends what kind of equipment to use. Permutit Co. (F-39)

Magnetic pulley—Technical bulletin 1021 describes a permanent ceramic-magnet pulley that removes tramp iron from materials on conveyor belts without the use of power. Stearns Magnetic Products Div., Indiana Steel Products Co. (F-40)

Steel tubing—Bulletin features a simplified selection chart providing technical data on stainless-steel and aluminum tubing and pipe. Joseph T. Ryerson & Son, Inc. (F-41)

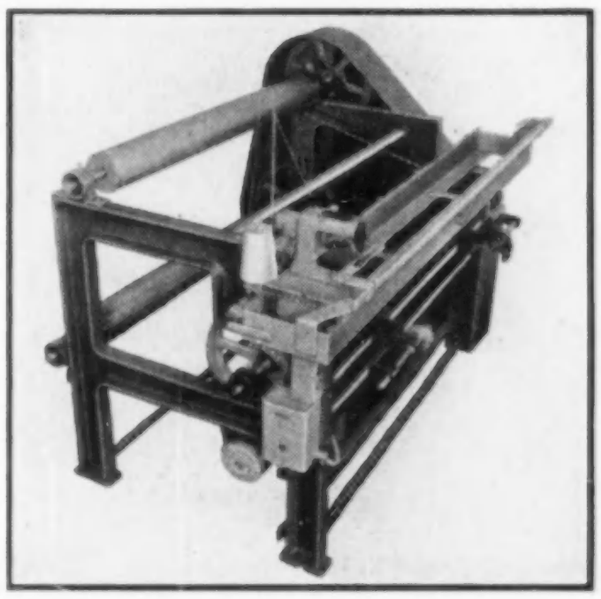
Circuit breakers—Fundamentals of selective short-circuit protection for

It's how you finish that counts. Cloth room machines which have become obsolete have lost their profit life to your mill. Think over your needs now. Then get the facts about new machines from our engineers. They can help you. Ask around. You'll find out why most textile men buy "C & M".



BROADWAY INSPECTOR

To rewind, inspect and measure piece goods—8 to 1 ratio—full reverse—safety side panel—C & M quality at low initial cost.

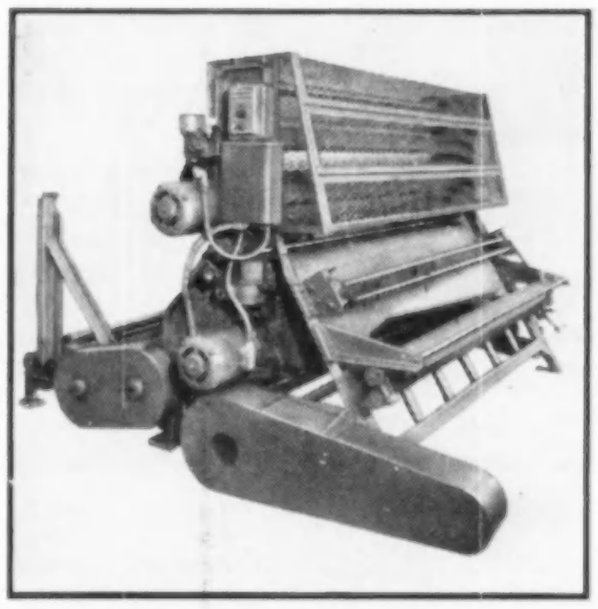


DUPLEX SEWING & WINDING MACHINE

Sews loom rolls together into large roll for faster shearing. Large roll fed to shear as second large roll is being made simultaneously.

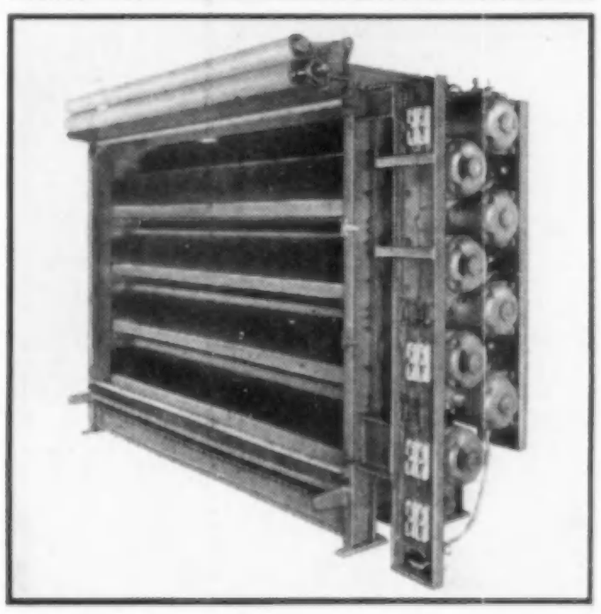
HERMAS AV SHEAR

4-knife vertical space-saver for fast, clean-cut shearing—individual motor drives—automatic seam protector—micro cloth rest adjustment—special attachments available to fit your shearing needs.



HERMAS BRUSHER

Newest model BRVM vertical brusher—8 rolls all with individual motor drives and suction hoods—calibrated adjustment for brushing pressures—tension unit—electric brakes—variable speed cloth drive.



Since 1813 Serving the Textile Industry for more than 125 years

C M

Always Order Curtis & Marble Genuine Replacement Parts

Call

CURTIS & MARBLE MACHINE CO.

72 CAMBRIDGE ST., WORCESTER 3, MASS. • PLeasant 5-3137

SOUTHERN OFFICE • GREENVILLE, S. C. • CEdar 2-7131 ★ MIDDLE ATLANTIC • 95 SHELDON ST., WYCKOFF, N. J. • TWinbrook 1-0896

For more data, write this page number on Reader-Service card. →

Booth *Originators of* SUPR-O-TAPE • SUPR-O-BAND • STRIP-O-MATIC • MICR-O-GRIND
MANUFACTURERS OF QUALITY CARD CLOTHING SINCE 1892

REDUCE YOUR NEP COUNT!
WITH
MICR-O-GRIND*
*Pat. Pending

MILL TESTS SHOW:

Nep count reduced 40%

Blending improved substantially

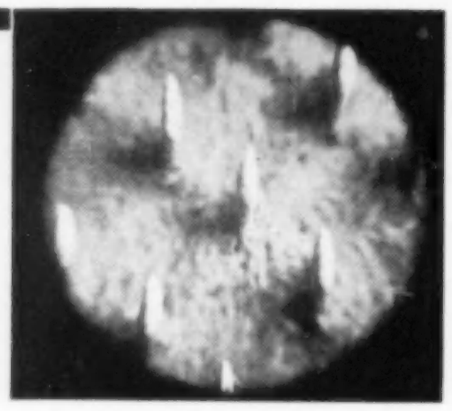
Yarn strength up 10%

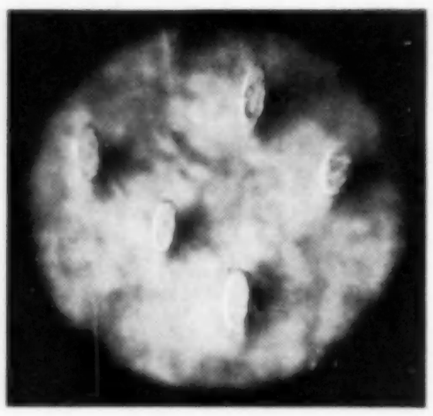
Grinding 80% less frequent

Grinding time less than 30 minutes (normal 6-8 hours)

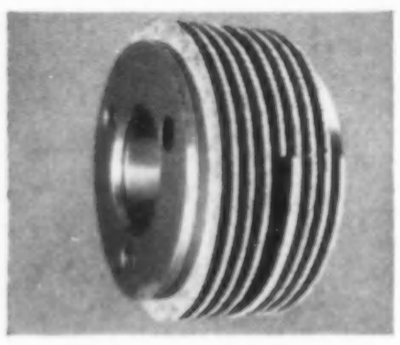
Stripping 65% less frequent

NEW AND EXCLUSIVE METHOD of putting an extra sharp needle point on the staples of card clothing. MICR-O-GRIND is especially suited for cotton mills and for woolen mills with difficult blends or noily stock.





Note needle point from MICR-O-GRIND (left) compared with conventional flat point (right). Extra sharp MICR-O-GRIND points card out the neps and reduce the nep count as much as 40% on cotton. Sharper points also allow stock to release itself—hence less loading—and also give greatly improved carding action. Stripping of cotton cards only once a shift—on woolen cards as little as once a month.



Grinding discs are spiraled to take off the heel of each tooth. MICR-O-GRIND head fits your conventional grinding shaft.

HOW IT WORKS

Exclusive new MICR-O-GRIND head has spiraled abrasive discs to take off the heel of the wire. This leaves a needle-like point, long recognized as ideal for card clothing. *Never before has this ideal been attained.* Conventional grinding invariably leaves a flat point because no way was known to grind the teeth to a perfect point.

IMPROVED QUALITY

The needle point of the teeth holds the fibres long enough to be thoroughly carded and yet does not tear the fibres. This provides a more gentle combing action for increased yarn strength, better blending and reduces neps by as much as 40% in cotton carding.

Needle point is smooth enough to release the stock easily, yet the fine serrations (as seen under a microscope) will not let the fibres escape without being carded. This also means that there is less beating action at the doffer comb as the web flows more readily off the card.

REDUCED COSTS

through reduced Down Time for grinding and stripping. MICR-O-GRIND clothing is very inexpensive—only 5% more. The MICR-O-GRIND needle point can be applied to any type of card clothing—the only difference is the point. In a cotton mill, you can get your standard 100's, 110's, etc., in either CCWC, CWC or rubberfaced foundation—also any woolen clothing.

BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA. 34, PA.

Booth

NEW LITERATURE Continued

motor circuits are covered in a bulletin from I-T-E Circuit Breaker Co. (F-42)

Water pollution—Booklet describes water- and air-pollution control and services offered by Roy F. Weston, Inc. (F-43)

GENERAL

Fire hazards—Building-loss possibilities from fire and natural hazards and some important safeguards are explained in a 22-p. booklet from National Board of Fire Underwriters (F-44)

Work schedules—A six-month calendar to help management forecast work overloads, vacation periods, and extra help needed is available from Manpower, Inc. (F-45)

How corporations work—The complicated structure of modern corporations is explained in simple language for the average employee in a 16-p. booklet. American Visual Corp. (F-46)

Foreign licensing—A question-and-answer booklet explains the advantages and disadvantages of foreign licensing and warns against pitfalls. Pegasus International Corp. (F-47)

Live storage—Point-of-use storage with the Flow Rack system is shown graphically in a bulletin from Rapids-Standard Co., Inc. (F-48)

Consumer research—Booklet tells how to sell new products and keep old products popular. Evans Research & Development Corp. (F-49)

Materials handling — Specialized attachments for lift trucks that eliminate the need for pallets described in literature from Hyster Co. (F-50)

1957 COTTON

CONTINUED FROM PAGE 61

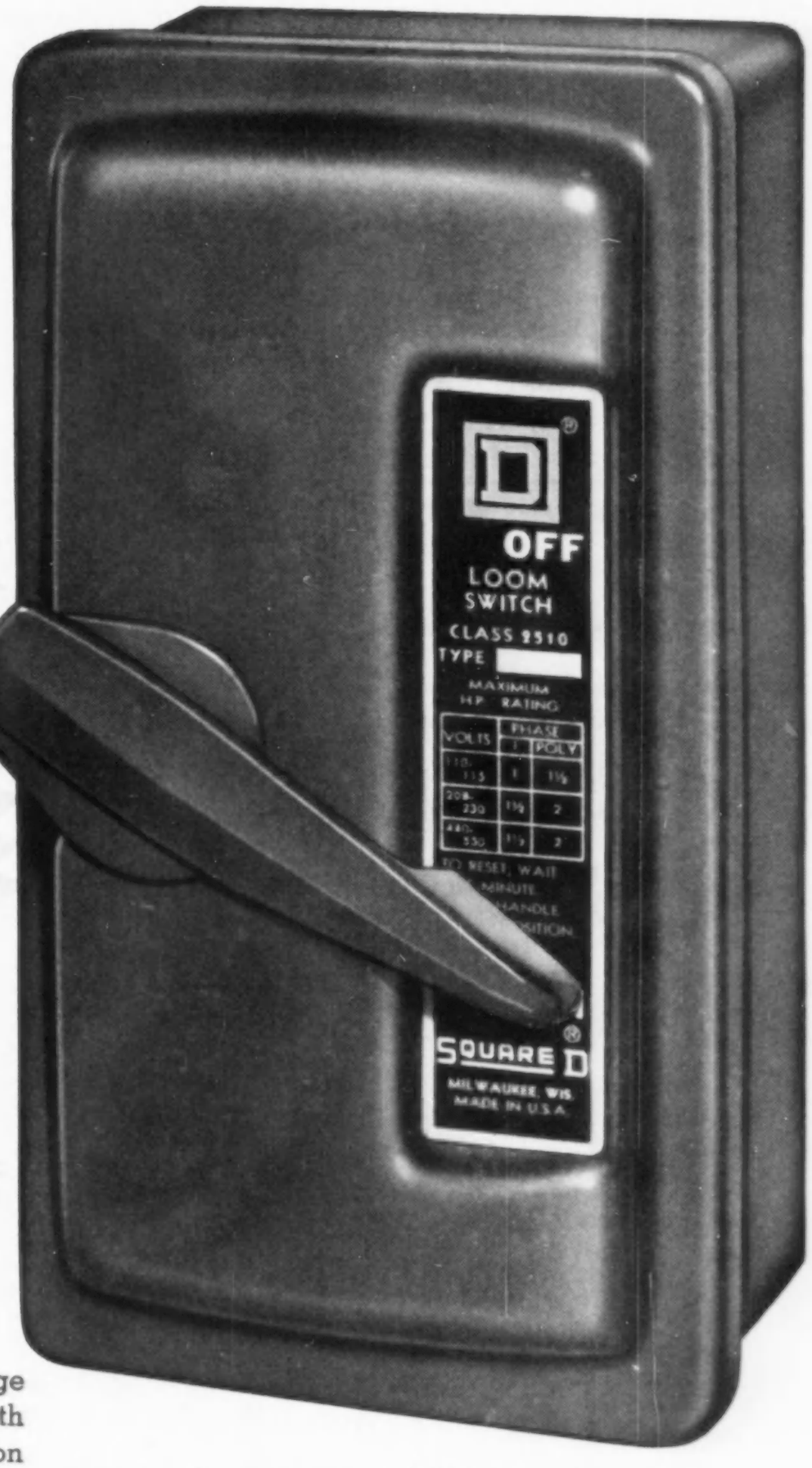
readings. But the fine fibers (with readings as low as 3.2) spin into stronger yarn because yarn spun from cotton with low readings contains more fibers in the cross section. Below 3.2, fiber breakage in carding and the lack of convolution and crimp may offset the benefits of extra fibers in the yarn.

Since less twist is required to obtain maximum strength in roving and yarn made from cotton with a low Micronaire reading, front rolls can be operated at higher speeds. Increased production is an obvious advantage.

Cotton with desirable fiber qualities but slightly more leaf trash than nor-

Lint-tight
LOOM SWITCH

with important DESIGN LEADERSHIP features...



- Flush handle reduces possibility of damage or accidental operation. Easy to operate with simple up-and-down motion. Handle position clearly shows whether starter is ON or OFF.
- Over-center cam type cover latch provides heavy clamping pressure on neoprene sealing gasket.
- Vibration or shock conditions will not affect toggle mechanism.
- Simplified wiring. Line terminals at bottom for easy floor pedestal mounting.
- Plenty of wiring space. 1¾" top and bottom. ½" at each side.
- Cover is interlocked to prevent opening when starter is "ON."
- Protected type overloads permit group fusing of several motors on a single branch circuit.
- Mechanical linkage is provided to force contacts open with direct pressure from handle.

Write for Loom Switch Bulletin 2510-R.
Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.

EC&M HEAVY INDUSTRY ELECTRICAL EQUIPMENT...NOW A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more data, write this page number on Reader-Service card. →

mal can be used by many mills with completely satisfactory results. The waste through carding is higher but not usually more than 1 or 2%. The increase in cost caused by increased waste is more than offset by the lower initial cost of the cotton.

For example, if Cotton A costs 36¢ per lb. and processes with 8% waste and Cotton B costs 32¢ per lb. and processes with 10% waste, the cost of Cotton A after cleaning is 39.1¢ and the cost of Cotton B is 35.6¢. The difference in the cost of the two cottons after cleaning narrowed 50 points to a difference of 3.5¢ from the initial difference of 4¢.

Although in general there is a steady increase in the percent of waste produced as the cost of the cotton decreases, there is considerable overlapping in the percent waste removed from cottons of the same cost as a result of cleaning. Because of this overlapping and the fact that the amount of waste varies from mill to mill, each mill must determine from its own waste studies the actual percent waste removed from a given type of cotton.

A few more trash particles are present in yarns and fabrics produced from lower grades of cotton; but this slight increase in trash is not objectionable for many fabrics and it is usually offset by fewer neps and other imperfections.

Cotton with a shorter staple length can be used for certain fabrics without significant effect upon production or quality. While in general a cotton of shorter staple length requires more twist in spinning and roving, no changes in twist multipliers may be necessary when you are using shorter cotton with low Micronaire readings. Both of these factors can result in lower raw-cotton costs.

Colored Cotton Spins Well

Cottons of the highest grade contain fibers that are white with varying degrees of luster at the time the cotton is ginned. Upon storage, most cottons turn cream-colored. The spinning value of creamy cottons is equal in every respect to white cottons having the same fiber properties, and creamy cottons can be bleached and dyed as satisfactorily as white cottons.

Some cottons contain spots, and these cottons sell at considerable discounts below white grades with the same leaf content. The appearance of the yarns spun from spotted or light-spotted cottons usually equals those spun from white grades.

Manufacturing waste may be slightly higher, but this factor of increased cost is more than offset by the lower cost of the cotton. Spotted cottons can be bleached and dyed satisfactorily with results that usually equal those of white grades.

Some cottons are dull or slightly gray in color. Although these cottons may be dyed in darker shades, they do not bleach as well as white or spotted cottons.

MODERN HANDLING METHODS

CONTINUED FROM PAGE 57

ings away from the dial; so they don't get pulled or dirty.

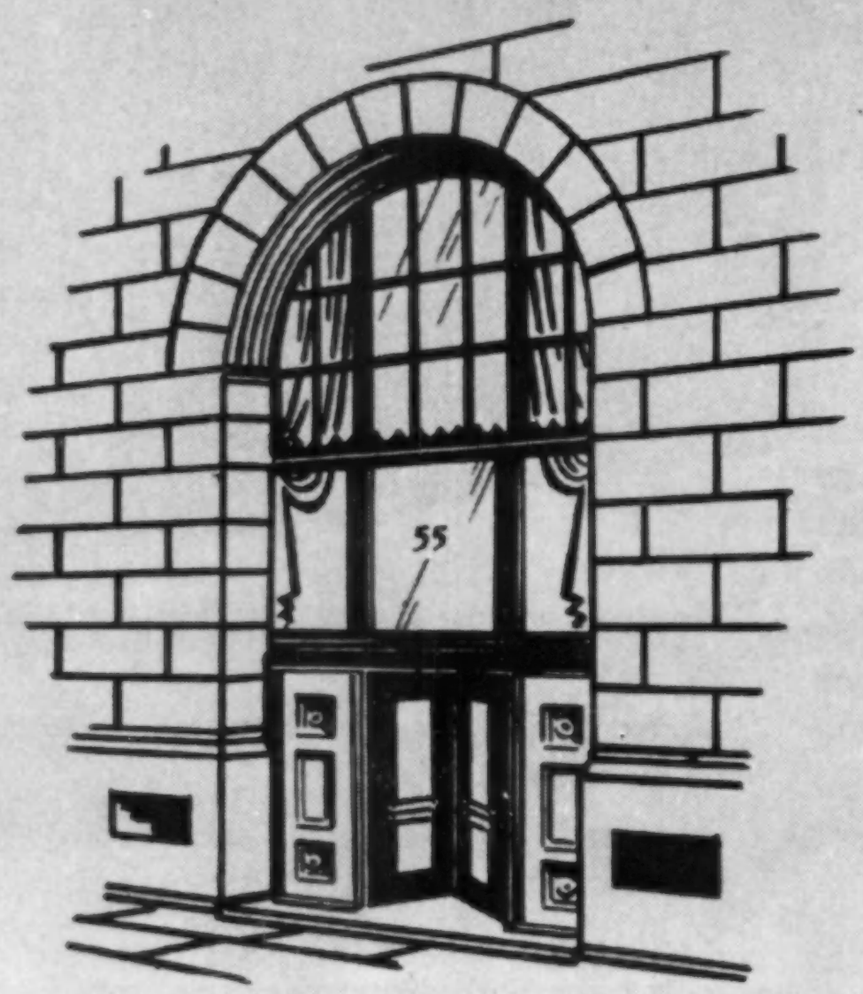
After the looping process, the stockings are laid on a tray with the welts in line facing the operator. The stockings are then in a position to go straight back to the inspecting section.

Inspecting machines are arranged immediately behind the looping machines. One inspector checks the work from three looping machines.

Some inspecting machines have been equipped with clipping attachments to remove ends. Inspecting forms have been moved away from the table; so a tray can be placed between

Our service is tailored to provide all the working capital any qualified client needs, without increased borrowing, diluting profits or interfering with management.

Information available for any manufacturer or distributor with $500,000 or more annual sales.



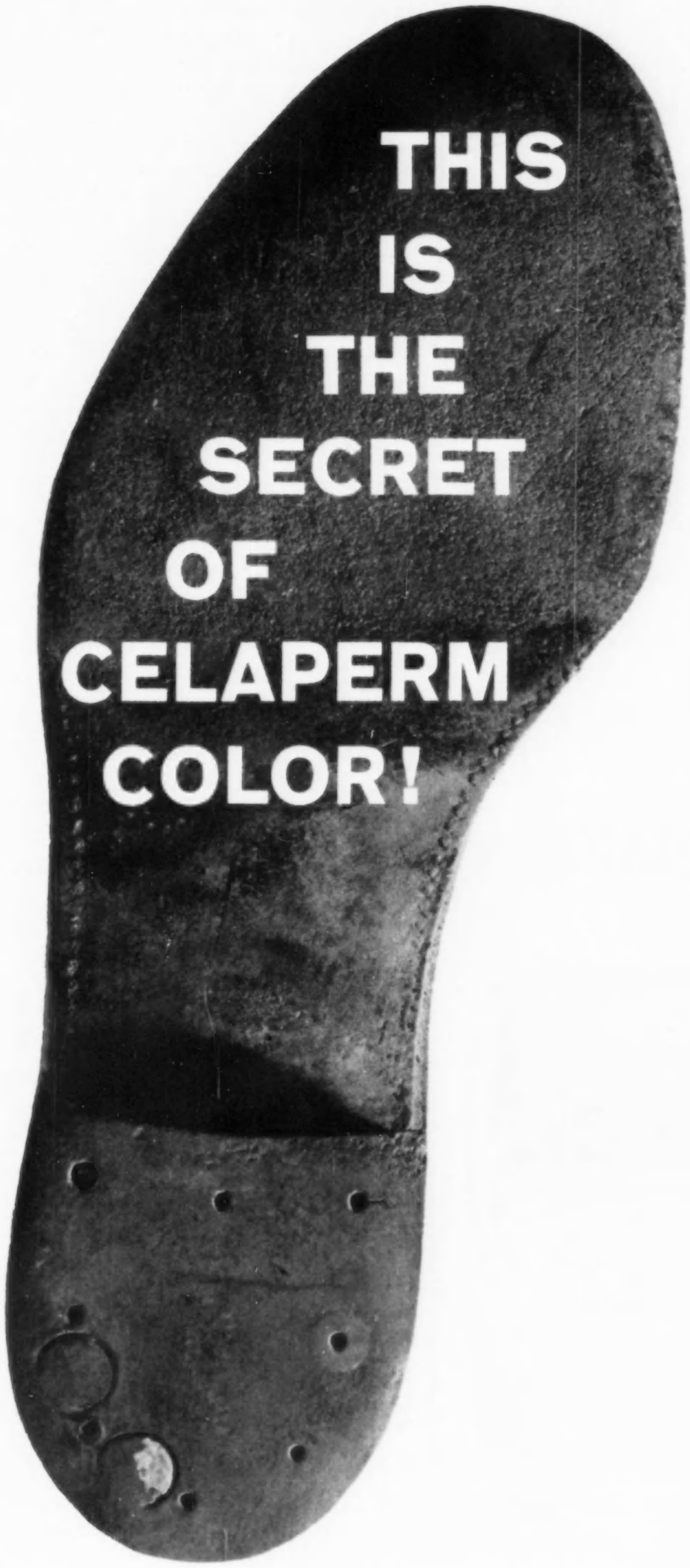
Textile Banking Company

55 Madison Avenue, New York 10, N.Y.

Providing operational financing for the apparel, electronics, furniture, leather, plastics and textile industries.

Subsidiaries:

T. B. C. Associates, Inc., New York **Southwest Texbanc, Inc., St. Louis**



What's behind Celaperm's success?

What makes Celaperm colors so right?

No gimmicks—Celaperm's secret is *shoe leather*. Endless hours covering converters and mills for every color trend. And the taste and talent to interpret them.

Celaperm is right for you:

Do you make dress goods? Men's shirtings? Draperies and curtains? Swimwear? You can style completely in Celaperm acetate—and know you're right. Right in color engineered for specific end-uses. Right in performance—color *sealed-in* for keeps. Celanese Corporation of America, Textile Sales Division, Charlotte, N. C.

Celanese® Celaperm®

Celaperm is right on the beam:

conveniently packaged for economic use—

Filament: 4 lb. cones
solid and pattern 30 x 54 inch weaving beams
pattern 21 x 42 and 14 x 52 inch tricot beams

Bulked: 2 and 3 lb. cones

District Sales Offices: 180 Madison Ave., New York 16, N. Y. • P. O. Box 1414, Charlotte, N. C.
819 Santee St., Los Angeles, California • Room 10-141 Merchandise Mart, Chicago 54, Illinois
200 Boylston St., Chestnut Hill 67, Mass.

Export: Amcel Co., Inc. and Pan Amcel Co., Inc., 180 Madison Avenue, New York 16, N. Y.

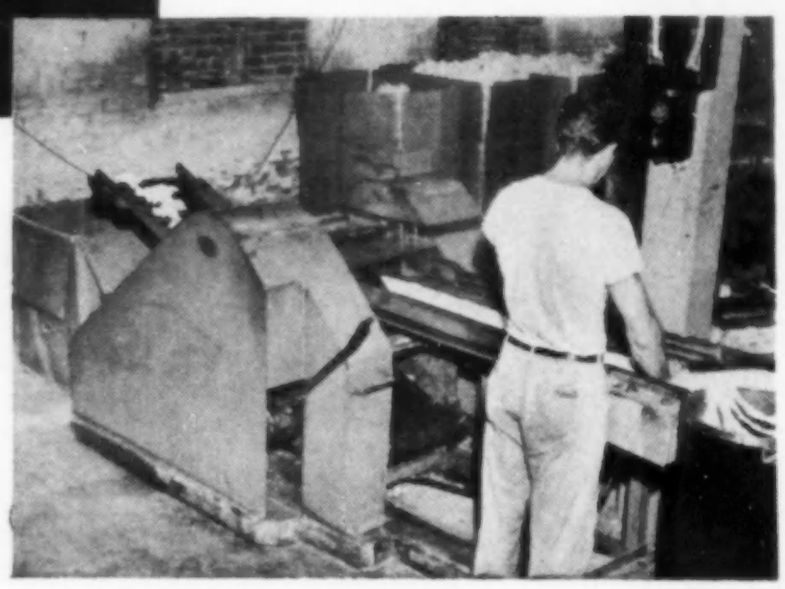
In Canada: Chemcell, Canadian Chemical & Cellulose Co., Ltd., 2035 Guy St., Montreal

Celaperm . . . a Celanese contemporary fiber

For more data, write this page number on Reader-Service card. →

Cut Tow

Into 3/4" To 6" STAPLE LENGTHS



You can readily cut nylon, rayon, other synthetic and natural fiber tow, into uniform lengths varying from $\frac{3}{4}$" to 6" on Taylor Stiles Staple Cutters.

The operation is continuous, the rate depending on the size of tow and the length of cut.

Changes in length are quickly made by means of a vari-speed motor, or by changing sprockets when variations in staple lengths are infrequent.

We Also Make Cutters For Thread Waste, Rags, Etc.

Write today for four page descriptive folder.

TAYLOR STILES & COMPANY

15 Bridge Street — Riegelsville, New Jersey

The ROTARY UNION Outlasts all other Rotating Joints

The Rotary Union's patented construction, with its optically flat mechanical seal, automatically adjusts to pressure ranges . . . eliminates mechanical maintenance and adjustments. Gives smooth sealing and unmatched service on all types of rotating heating or cooling equipment. Ball bearings reduce wear and power consumption.

A Precision Mechanical Seal

- Self-Aligning
- Self-Adjusting
- Pipe Sizes 1/4" thru 3"

"WHERE *Good Connections* COUNT"®

*Trade Name Patented

PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.

Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

the form and the table to speed production. A counter placed between the form and the table helps the inspector to count the stockings rapidly as they drop in the tray.

Stockings to be mended are marked on the ticket and placed in receptacles on the table. A mender works near each inspecting machine and repairs faults. Repaired stockings are then placed in the tray, but seconds and rejects are kept separate.

How Incentive Systems Work

Faults are recorded on a daily report card by the inspector. These faults are tabulated by the supervisor at the end of each day and posted on the wall to serve as an incentive for looper operators.

An incentive system also works for the knitters, who are allowed a percentage of faulty work. If the allowance is exceeded, the knitter is penalized.

This combination of incentive systems and handling methods have resulted in a high percentage of first-quality stockings coming from Alba's new seamless addition.

POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 87

no hope of conveying any information without having their communication all fouled up by an unpredictable side influence. This is a mistaken impression. No such futility is called for.

In order to "say" what you want to "say," remembering—and acting according to—a few simple rules will provide all the control needed.

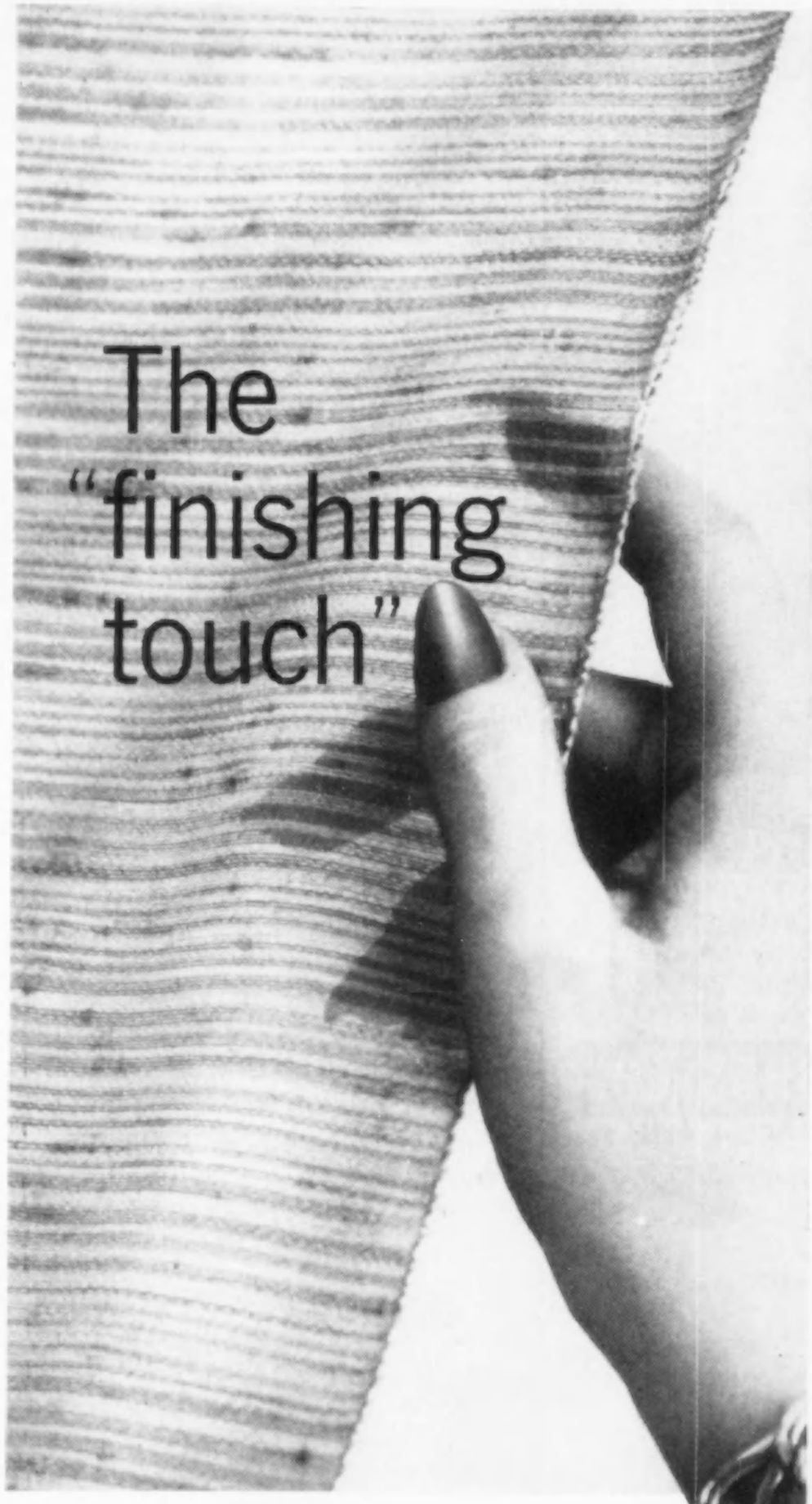
1. Words Never Appear in a Vacuum

It is hard even to imagine a situation where words are "pure," that is, free of external coloring or disturbance. Telephone? Here tone of voice, time of day (or night), distance, the plain fact of phoning instead of writing or coming to speak in person, all influence the meaning of the words. Telegram? Who has even shaken off completely the childhood feeling of urgency, danger, or trouble associated with the yellow envelope? So before it is even opened, a condition is created that affects the message.

2. Untrue Words Appear So

Here, of course, is the difference between a "good liar" and a "poor liar." The one matches his deceptive words with deceptive action; the other doesn't. Since most of us do not qualify as "good" in this category of activities, the above rule is true for most of us.

Have you ever seen your own boss

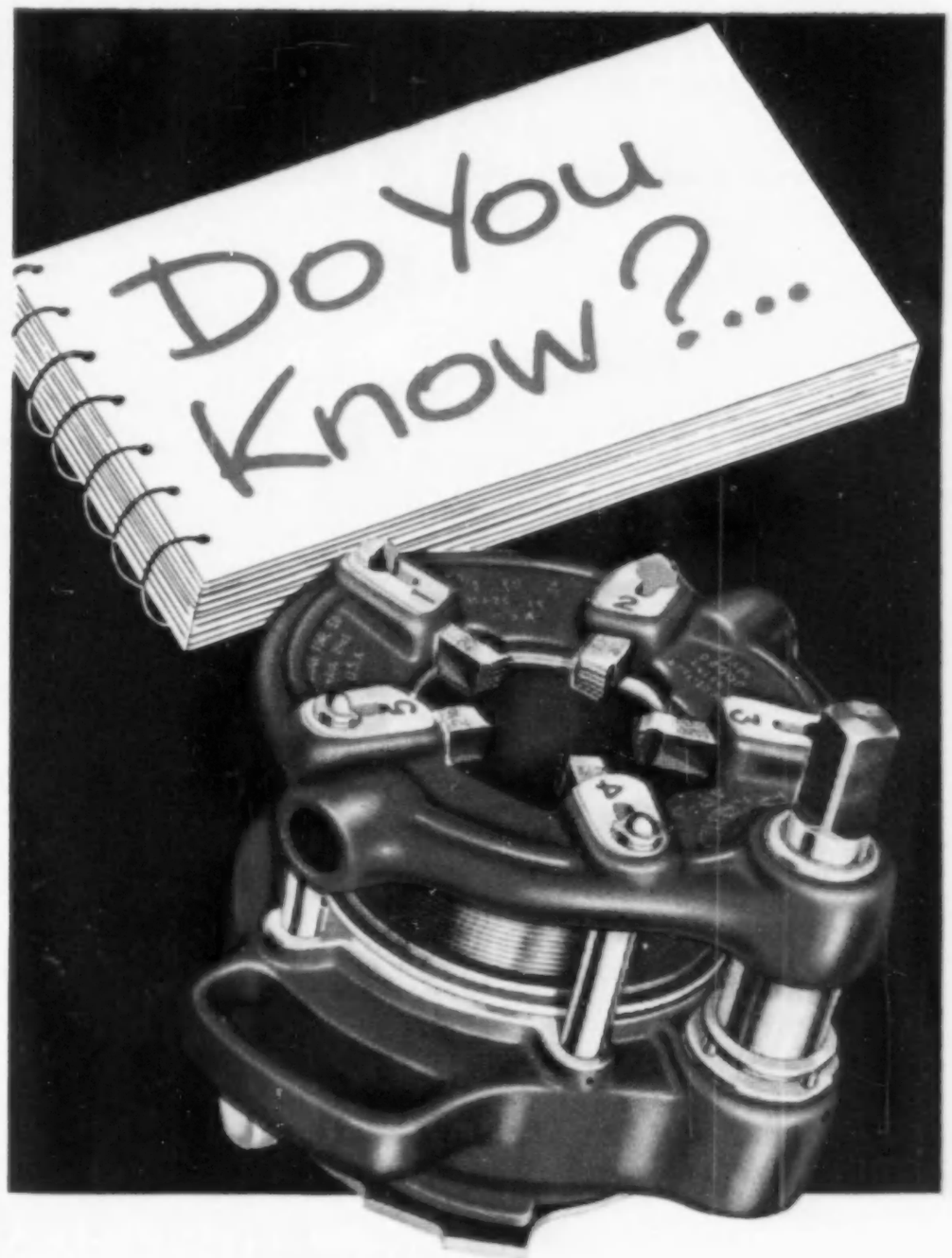


TEXREZ EXTENDER G

Essential to an improved finish!
Gives desired "Hand" to fabrics!

- builds "hand" on crease-resistant fabrics!
- when reacted with thermo-setting resins . . . outlasts repeated washings!
- economical to use: tremendous body-building properties that cost **so** little!
- cold water soluble . . . quickly forms fluid, stable solutions!
- all films are colorless, transparent!

STEIN HALL
285 MADISON AVENUE NEW YORK 17, N. Y.
MUrray Hill 9-0800

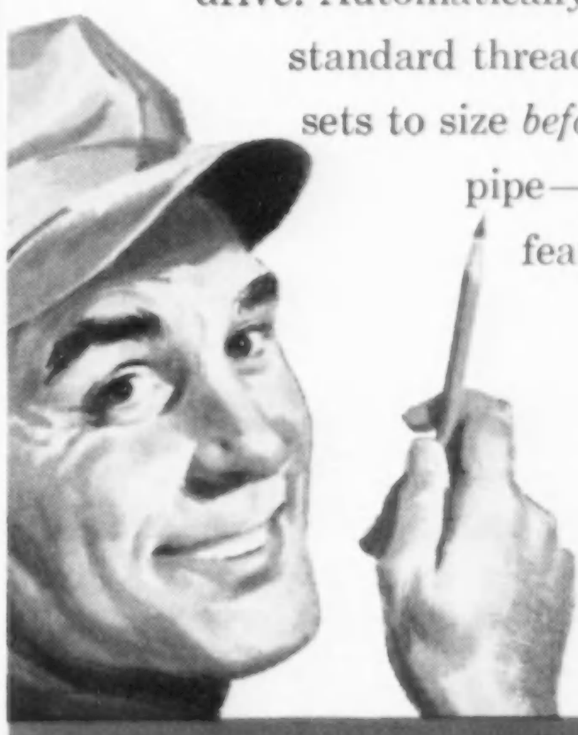


This New

RIDGID 4P-J

is the only 2½″ to 4″ geared threader that's Jam-Proof

It's safe—can't jam and knock equipment around when you thread pipe by power drive. Automatically kicks out after standard thread is cut. Workholder sets to size *before* putting on pipe—other easier work features. See it at your Supply House!



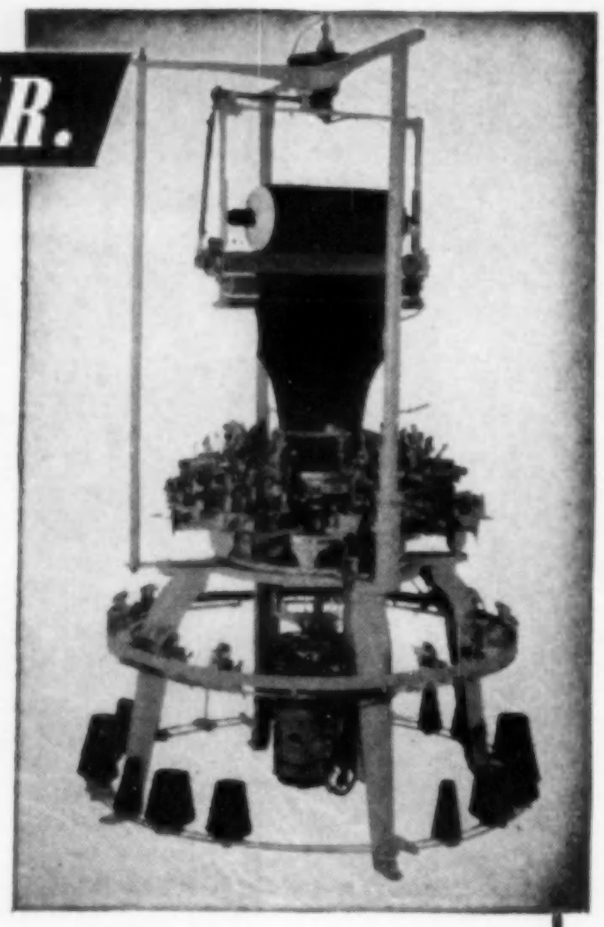
The Ridge Tool Company
Elyria, Ohio, U.S.A.

For more data, write this page number on Reader-Service card. →

ALL NEW...

TOMPKINS S-1 JR.

MAKES THE MOST PERFECT CLOTH POSSIBLE



HERE'S A TYPICAL EXAMPLE...

Model S-1 Junior making fleece with 400-lbs. of Carter 26's and 8's —five feeds, 18" cylinder, running time 68-turns per minute . . .

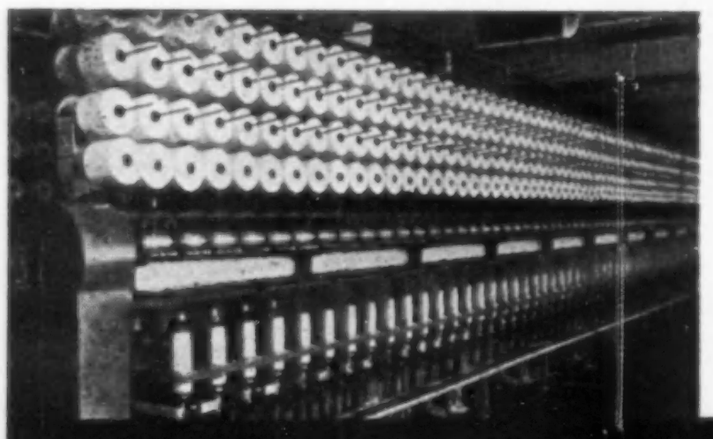
- MINIMUM OF IMPERFECTIONS AND BROKEN NEEDLES

You can produce any class of cloth in the wide range of circular spring needle knitting—in greater quantity, with less waste and less needle breakage—on the New S-1 Junior! It gives you the proven Tompkins system in fully modern form . . . with triple stop motions, furnishing wheels, new gearless drive, automatic oiler and air cleaner! Get the full story now . . . be among the first to profit!

TOMPKINS BROS. CO.

623 ONEIDA ST. • SYRACUSE 4, N. Y.

Makers of Circular Spring and Latch Needle Knitting Machinery...Since 1846



Tops for Cotton Tire Cord Paper

COLLINS Big Ring Twisters =

Big Packages Clean Knotless Yarn at Higher Speed ...Low Cost

Collins Big Ring Twisters produce 4 to 12 lb. packages of exceptionally clean knotless yarns, when employing a 6 to 8 in. ring size.

High Speeds are possible because Collins Big Ring Twisters are equipped with large diameter pulleys, anti-friction idlers, ball bearing front roller stands, large diameter feed rolls, and roller bearing spindles.

Low Cost is achieved through increased twisting and winding efficiency. *Quality* is inherent in big packages of knotless yarns. Write for full information on Collins Big Ring Twisters and Collins convenient financing plan.

COLLINS BROTHERS MACHINE COMPANY

647 Roosevelt Ave., Pawtucket, R. I. • Charlotte • Chicago
Hugh Williams & Co. Ltd., 27 Wellington St. E., Toronto 1. Canada

There is a Collins Twister for Every Ply Yarn Construction

standing with furrowed brow, obviously deeply concerned? Perhaps you've gone up to him and said, "What's the trouble, boss? What's wrong?" He turns and looks at you kind of absently and says, "Oh, nothing. Nothing at all, Charlie. Everything's fine." He's a poor liar like most of us, and you don't believe a word he's said.

Often a person's motive for his verbal "lie" is entirely praiseworthy. He doesn't want to get people upset or tell them bad news or worry them. He may feel it is not their affair. Sometimes he doesn't have anything definite to say that is true; so he says something definite that is untrue or only partially true, believing his listener needs a definite answer. But it never, or almost never, comes off.

3. Silence Is Better

If you can't make your words fit your actions, the only way to avoid tripping yourself up (which causes confusion, resentment, distrust, and concern among your employees) is not to say the words. Your behavior then speaks for itself. Granted, your behavior says different things to different people, as we indicated above; so it is not an ideal way to communicate. But at least your behavior never, at one and the same time, says different things to the same person.

4. Truth Is Best

Does this sound trite? Does it make you think of Sunday School lessons? Perhaps so. But it is still a plain and undeniable fact of business and industrial life: true words are the only words you can get away with. The only way to avoid being shown to be a deceiver is to make your words match your actions.

LOOM BRAKES

CONTINUED FROM PAGE 62

cause the brake may be jerked against the wheel and broken if the loom slams.

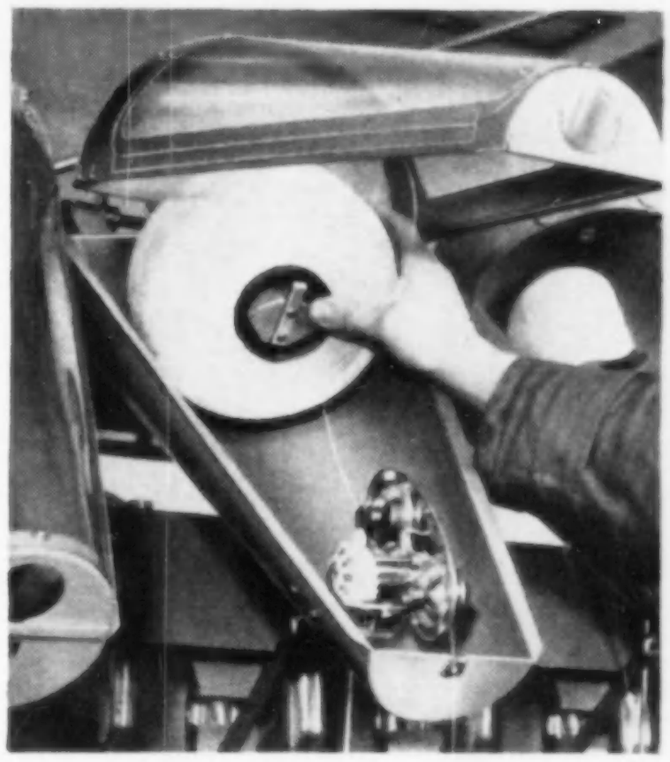
The brake-rod collar should be adjusted to the brake lever so that the brake-lever spring will exert enough pull to stop the loom. The spring bracket can be moved up or down to obtain the right tension.

If the brake lever is equipped with a weight, discard the weight and install a spring and spring bracket. The cost will be slight, and the brake will be made much more effective. The release lever and the release-lever link should be so adjusted that the brake can be engaged or disengaged easily.

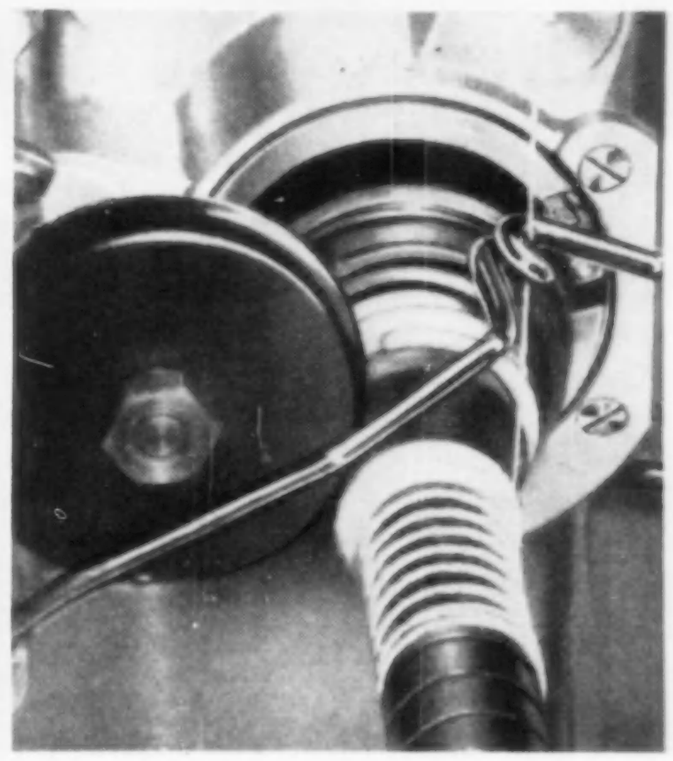
The release-lever link should also be adjusted so that the lug on the

SCHWEITER

Suction hood takes all normal cross wound bobbins, also cheeses ▶



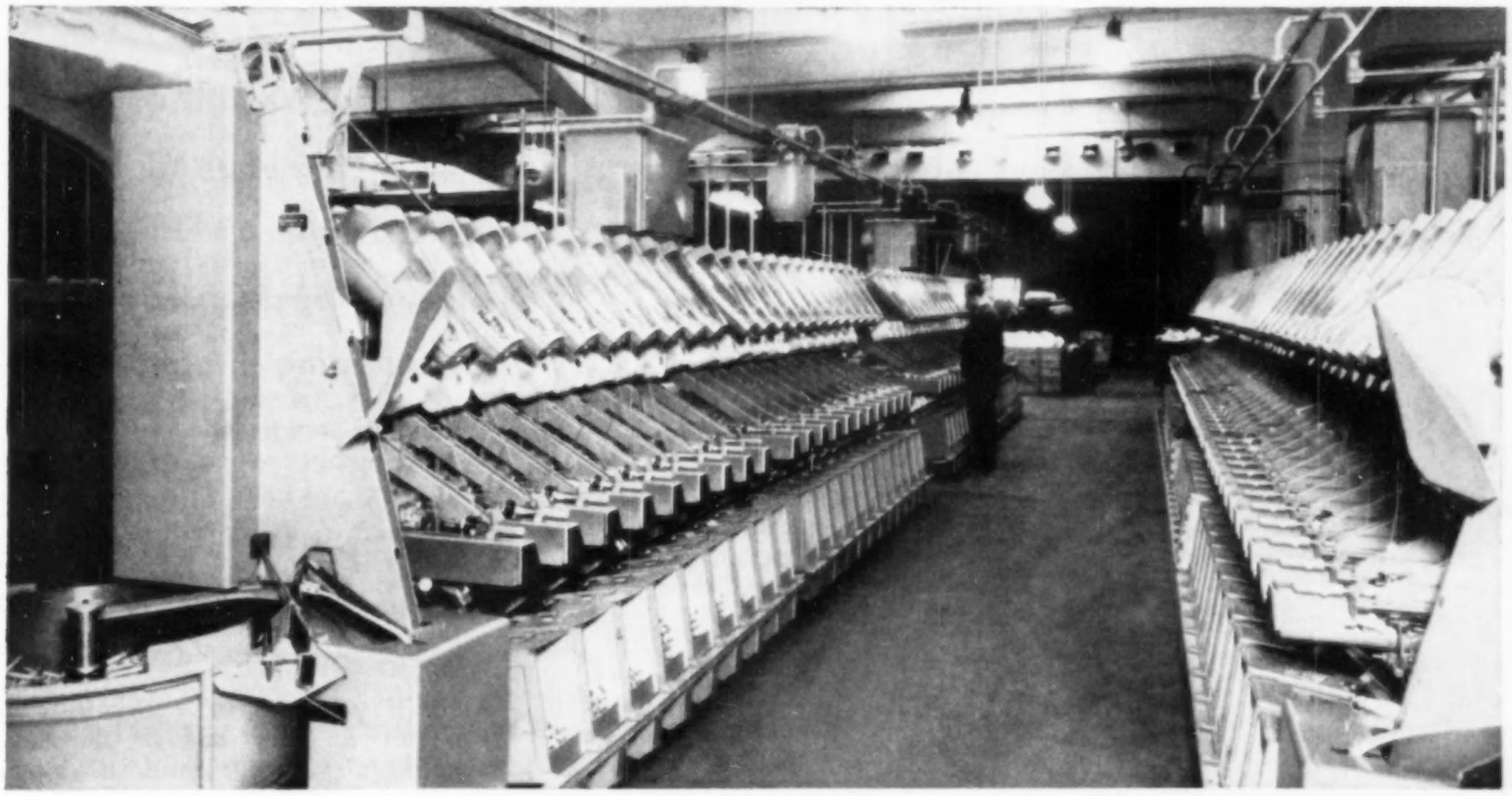
ROTOR device for tailless bobbins reduces labor when filling loom batteries ▶▶



SUPER-AUTOMATIC BOBBIN WINDER type MSL

This is one of the most efficient, most versatile machines in the automatic bobbin winder field

- **Automatic feeding device for empty bobbins**
- **Individual apparatuses** • **Automatic suction dust remover**
- **ROTOR device for tailless bobbins** • **Spindle speed 10,000 r.p.m.**
- **Bobbin packing device PACKER, for transporting bobbins directly to the loom**



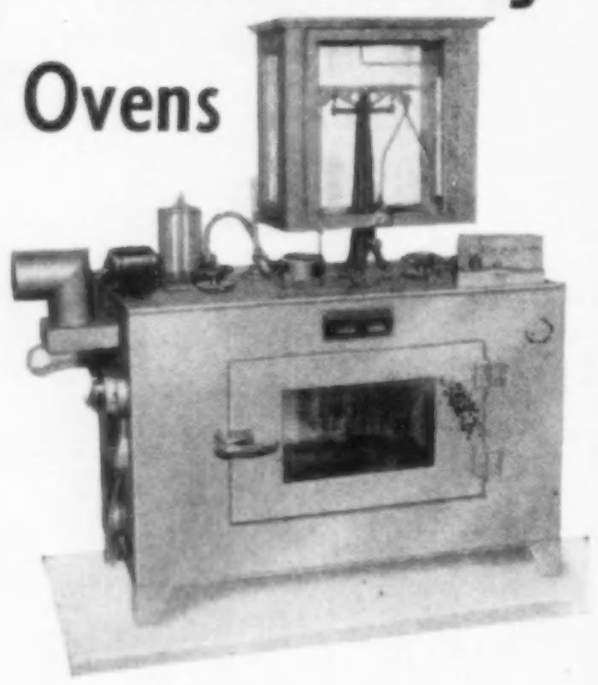
SCHWEITER LTD.

HORGEN (Zurich) Switzerland

Manufactured by **WHITIN MACHINE WORKS**, *Whitinsville, Mass. (U. S. A.)*
for sale in U. S. A. and Canada
Manufactured by **SCHWEITER** *for sale in other countries*

For more data, write this page number on Reader-Service card. →

Textile Testing Ovens



EMERSON OVENS

For accurate testing of water content in yarn, small wool samples and other textile material. The 8 Basket Oven, shown above, can be furnished with 8 baskets 3" sq. x 6" deep or 6 basket 4½" sq. x 6" deep, complete with weighing balances, sensitive to 3 mg., weights, and automatic temperature control. Table space 20" x 40".

Details of other style Ovens with specially designed baskets to handle YOUR TESTING PROBLEM on request.

EMERSON APPARATUS CO.
177 Tremont St. Melrose 76, Mass.

Need corrugated boxes in volume?

See your H&D packaging engineer

HINDE & DAUCH
Division of West Virginia Pulp and Paper Company
15 Factories
42 Sales Offices
Sandusky, Ohio

shipper handle will raise the brake lever enough to cause the release lever to fall into the off position when the shipper handle is pulled on.

If all these settings are made correctly, the E-model brake will effectively stop the loom. After the brake is once set up correctly, it will operate with little attention or maintenance.

It is important to convince weavers and loomfixers that effective brakes are essential to both quality and quantity output. The weaver should flag any loom that stops with the shuttle out of the box or with the lay near or past the front-center position.

The weaver will make his job much easier and will increase production by insisting on good brakes for his looms. The loomfixer, after he once gets the worn-out brakes back into use, will also profit. The looms can be controlled better, and breakage of parts will be reduced.

MILL PERFORMANCE

CONTINUED FROM PAGE 53

relatively normal distribution is assumed, which may or may not be the actual case. A large number of measures at one end of the distribution may introduce an inaccuracy.

Another point that bothers some is that the same unit of change in the raw-measure scale will not be the same degree of change for each mill when converted to the T-Score scale. This difference results because the variability of the distribution over the base period determines how significant the fluctuation will be.

For example, an extremely inefficient plant could make small changes and skyrocket on T-Scores. An efficient plant, on the other hand, with a past history of efficiency could do the same thing and it would barely affect the T-Scores.

Such fluctuation, of course, is offset quarterly by feeding in each quarter's new raw measures; but the fluctuation can and does happen for a given quarter.

This technique is by no means a cure-all; it is not a final answer. But it has done a creditable job for Shuford Mills.

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 112

Geared Motor Coupling

A geared electric-motor coupling manufactured by Link-Belt Co., Prudential Plaza, Chicago 1, Ill., is for transmitting power to pumps, gener-

CONTINUED ON PAGE 134

Out Goes LINT · FLY TRASH

from your

SPINNING FRAMES and ROVING FRAMES

Quickly • Economically

by using

M-B AMOSKEAG PNEUMATIC ROLL PICKER

MODEL A-VT-A

A pneumatic tool especially designed for the specific purpose of REMOVING LINT and FLY from the top rolls of Spinning Frames and Roving Frames. Saves time and does a better job by substituting mechanical cleaning instead of laborious hand methods. Air deflector prevents fly and lint being blown into yarn when spinning. Adjustable valve permits any desired spindle speed.

Write for Literature

M-B PRODUCTS
46 VICTOR AVE., Div. 16
DETROIT 3, MICHIGAN

WE NEED YOUR HELP!

Changing your address?

Subscribing?

Renewing a subscription?

Requesting information?

Then, be sure to send your postal zone number when writing.

And not just to us. Use the zone number in every address that needs it.

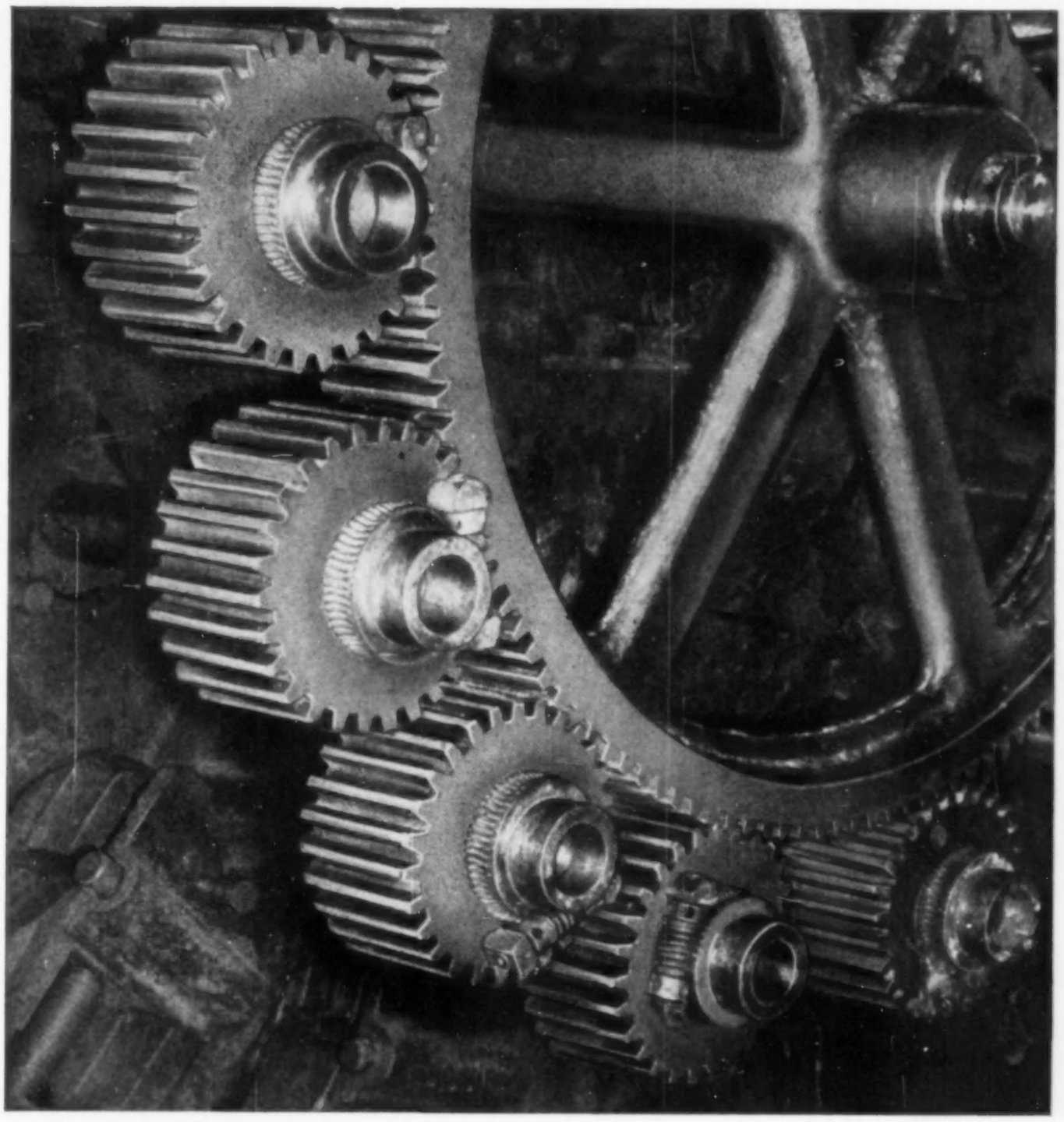
To speed the mails, the Post Office has created postal zones in 106 cities.

So, if you live in a city with postal delivery zones, please help us get your mail to you quicker. Always use your zone number when writing.

This Ad Donated in the Interest of Better Postal Service

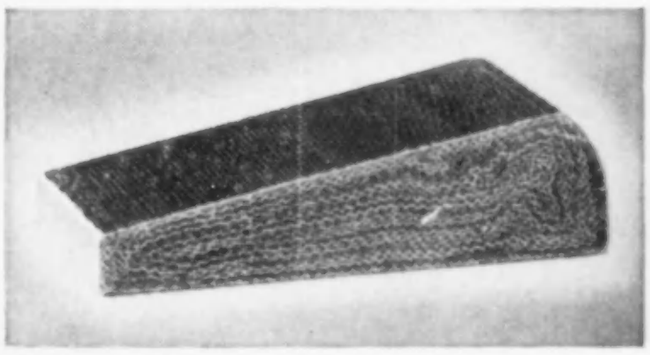
McGRAW-HILL PUBLISHING COMPANY

330 West 42nd Street
New York 36, New York



REDUCE WEAR on large metal gears and reduce noise in textile printing machines with the use of CDF Celoron plastic gears. Prior to this use of Celoron, metal gears had to be replaced after one to two months' operation. But after installing nine CDF Celoron gears, no wear developed on the main gear, no replacement of the CDF Celoron gears was required for *years*.

ELIMINATE CORROSION, resist wear with C-D-F Celoron pot-eyes for bleachery applications. This low-cost molded product is extremely smooth and strong, has excellent resistance to high heat, moisture, abrasion.



INCREASE MACHINE EFFICIENCY with special C-D-F loom parts. This C-D-F parallel plug has high impact strength, is impervious to oil and water. It does not fracture, chip, delaminate. Two years' life is common.

SAVE MATERIALS with superior CDF Roving Cans. For running synthetics, CDF makes a rolled fibre rim that eliminates static charge. No chance of snagging or injuring materials. New 16"-diameter Diamond Fibre cans are now available!

LOWER mill operating COSTS by wider use of C D F plastics

Reduce wear and noise, eliminate corrosion, increase machine efficiency, save materials. That's what these four examples of C-D-F plastics can do for your mill. C-D-F is a leading manufacturer of vulcanized fibre, the long-life material that goes into Diamond Fibre Roving Cans which are famous for quality and their seamless uniformity. C-D-F has years of experience in selling the textile industry, has established its southern headquarters in Spartanburg, S. C. Reasonable prices, superior quality, fast service are part of every order placed with the friendly C-D-F textile sales engineer. If lowering mill operating costs is your responsibility, C-D-F . . . a big reliable source of supply . . . helps you with a complete line of textile industry plastics.

C D F MAKES

BARRELS
BEARINGS—cloth roll, jig
BOARDS—examining
BOBBINS
BLADES—separator
BOXES—battery filling
bobbin
conditioning
doff
mill
quill
spooler
tote
BUSHINGS—binder
CAMS
CANS—roving waste
COUPLINGS
COVERS
spinning bucket
GEARS—auxiliary
card
coiler head
fitting
motor pinion
quill
picker
spinner
spooler
GUIDES—knife
PICKER—stick parts
PINS—binder
PIRNS
PLATES—lay
PLUGS—parallel
POT—eyes
PULLEYS
RECEPTACLES
ROLLS—lap
ROLLERS
SEPARATORS
SHEETS—bin lining
SHUTTLE PARTS
TABS—binder
TRACK—tenter frame
TRUCKS—cloth
conditioning
doff
filling
quill
spinning
spooler
twisting
waste
winding
TUBES—core sizing
TUBING—spiral
WASHERS

CALL C-D-F SPARTANBURG, Spartanburg 3-6397 for fast service, expert technical help.

CDF

CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE Budd COMPANY

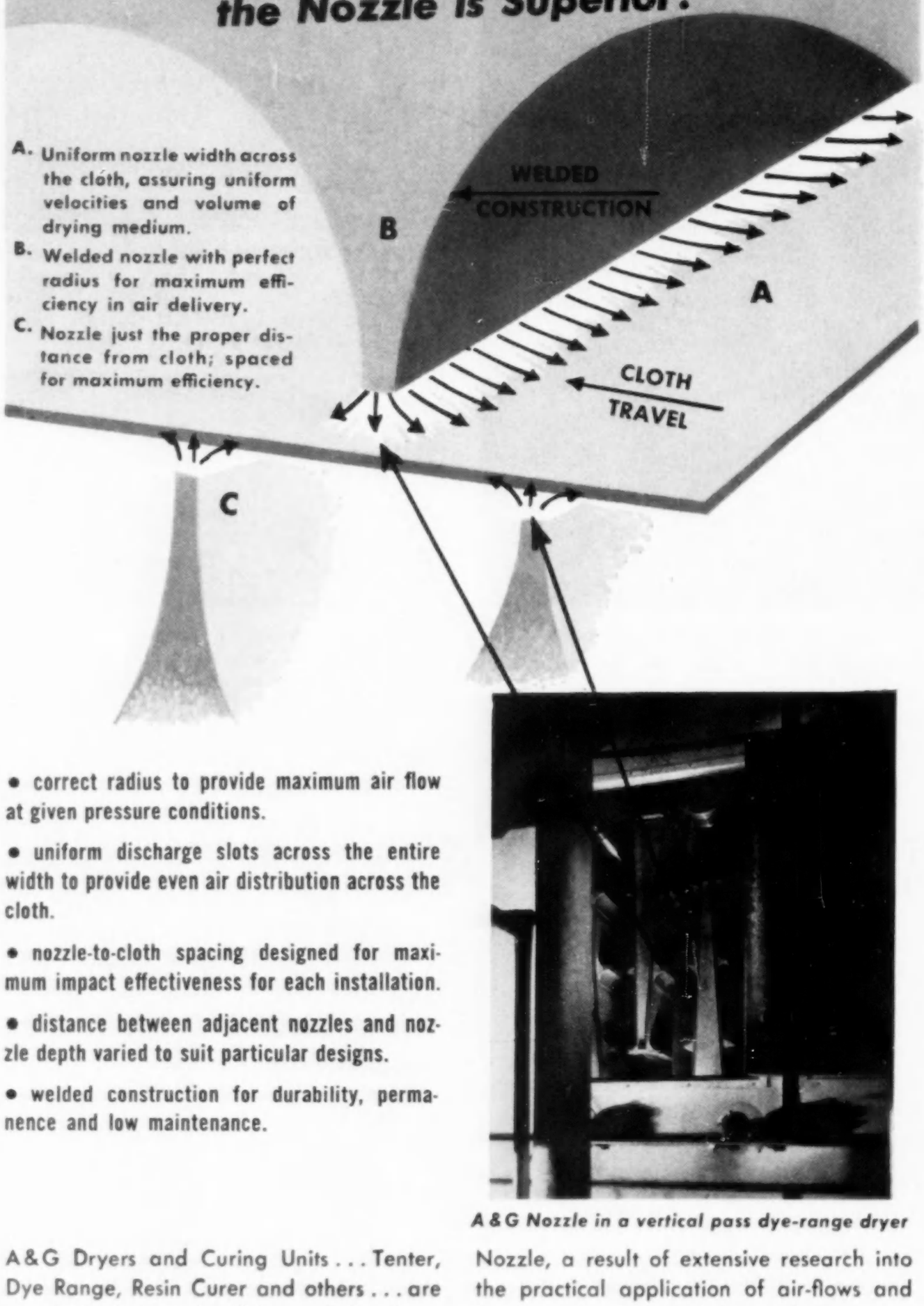
NEWARK 55, DELAWARE

For more data, write this page number on Reader-Service card. →

TEXTILE DRYING EQUIPMENT

THE A & G NOZZLE

Drying is Superior because the Nozzle is Superior!


A. Uniform nozzle width across the cloth, assuring uniform velocities and volume of drying medium.
B. Welded nozzle with perfect radius for maximum efficiency in air delivery.
C. Nozzle just the proper distance from cloth; spaced for maximum efficiency.
WELDED CONSTRUCTION
B
A
CLOTH TRAVEL
C

- correct radius to provide maximum air flow at given pressure conditions.
- uniform discharge slots across the entire width to provide even air distribution across the cloth.
- nozzle-to-cloth spacing designed for maximum impact effectiveness for each installation.
- distance between adjacent nozzles and nozzle depth varied to suit particular designs.
- welded construction for durability, permanence and low maintenance.

A & G Nozzle in a vertical pass dye-range dryer

A&G Dryers and Curing Units . . . Tenter, Dye Range, Resin Curer and others . . . are noted for their high efficiency. It has been well proven that this efficiency and a corresponding low maintenance are due largely to the design and construction of the A&G Nozzle, a result of extensive research into the practical application of air-flows and heat transfer. Both in design and in construction, the A&G Nozzle has proved superior. In a very real sense it is the accepted standard of the industry.

THE MIDLAND-ROSS GROUP OF COMPLEMENTING SERVICES

J. O. Ross Engineering, New York
John Waldron Corporation, New Brunswick, N. J.
Andrews and Goodrich, Boston
Ross Engineering of Canada Limited, Montreal
Ross Midwest Fulton, Dayton
Hartig Extruders, Mountainside, N. J.
Carrier-Ross Engineering Company, Ltd., England

ANDREWS and GOODRICH

A unit of J. O. Ross Engineering Division, Midland-Ross Corporation

336 ADAMS STREET, BOSTON (Dorchester), MASS.

Southern Representatives: McSpadden & Scantland, Charlotte, N.C.

Reprints Available

Reprints of the following articles run in past issues of TEXTILE WORLD are available at the price indicated. To order, write to TEXTILE WORLD, 330 West 42nd Street, New York 36, N. Y., stating the quantities and titles of the reprints desired. Enclose check or money order payable to TEXTILE WORLD.

THE NEW RESINS FOR TREATING WHITE COTTON GOODS
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies, 60¢ each

What are they? How do they react? How do you apply them? An expert in the field answers these and other questions about this important development in textile chemistry.

COTTON CRUSHPROOFING
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies, 60¢ each

An authoritative report that gives a brief background on crushproofing and explains how cotton fiber reacts to resin finishes, how crushproofing works on cotton, the types of chemicals used, and pointers on applying the finishes.

A NEW WAY TO MEASURE MANAGEMENT PERFORMANCE
50¢ each, 40¢ in lots of 20 or more

Here's a tool that helps pinpoint good and bad performance, isolate the need for improvement, and show how management is progressing in one of the basic factors that help determine costs and profits.

CHEMICAL FINISHING TECHNIQUES
$1 each, 85¢ in lots of 20 or more

A series of four articles that explain the chemical and physical properties of a number of finishing materials and their applications to and reactions with cellulose and various synthetics.

ENGINEERED TEXTILE DESIGN
Set of 5 articles. $1.25 per set

A series of articles of interest to those engaged in practical fabric design or in teaching functional design. One article introduces the all-fiber system, which takes the guess out of how many ends and picks to use in changing to a new fabric. Another shows how to change weight without changing structure. Detailed numerical examples are provided. A discussion of yarn diameters, as the basic of structure, opens the series.

METALLIC-YARN WET-PROCESSING GUIDE
50¢ each, 40¢ in lots of 20 or more

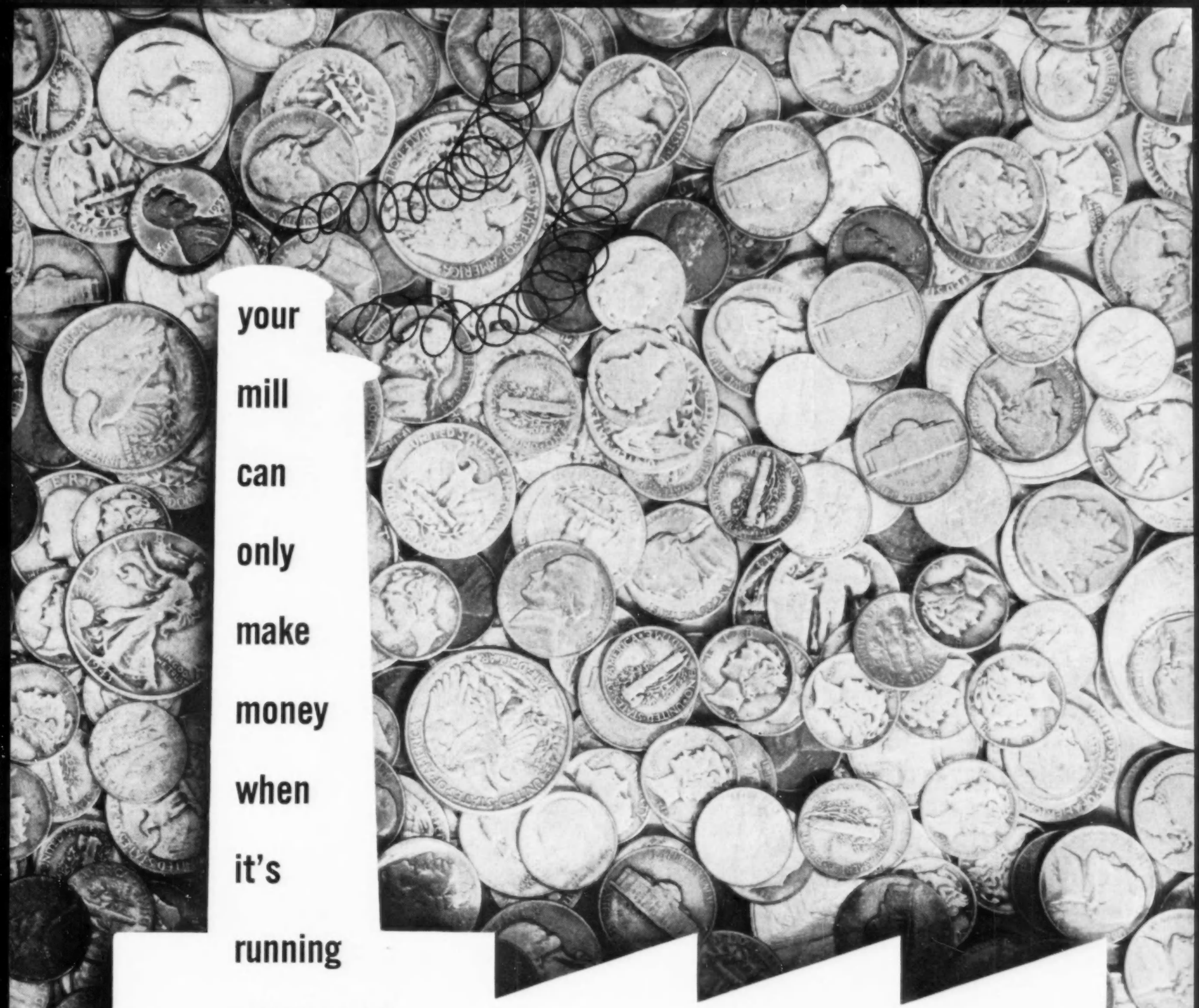
Wall chart shows step-by-step guide for wet processing each of six principal types of metallic yarns. Test gives details for handling different fabrics containing metallic yarns.

HERE'S A QUICK WAY TO IDENTIFY FIBERS
50¢ each, 40¢ in lots of 20 or more

A four-step method of fiber identification is described. A full-color chart of identification stains, a solvent chart, and fiber cross sections are included.

WOVEN CLOTH DEFECTS
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies, 60¢ each

An illustrated series of articles that show each major cloth defect, give its causes, and explain how to eliminate it.



SAVE THE PROFITS YOU LOSE TO INEFFICIENT MACHINERY

Your mill's ability to deliver a full day's profits for a full day's work can be seriously handicapped by production slowdowns and work stoppages caused by wear and failure of machine parts. As a result of such interruptions, losses in production often are compounded by fixed mill overhead costs and wages, which continue while the equipment is down.

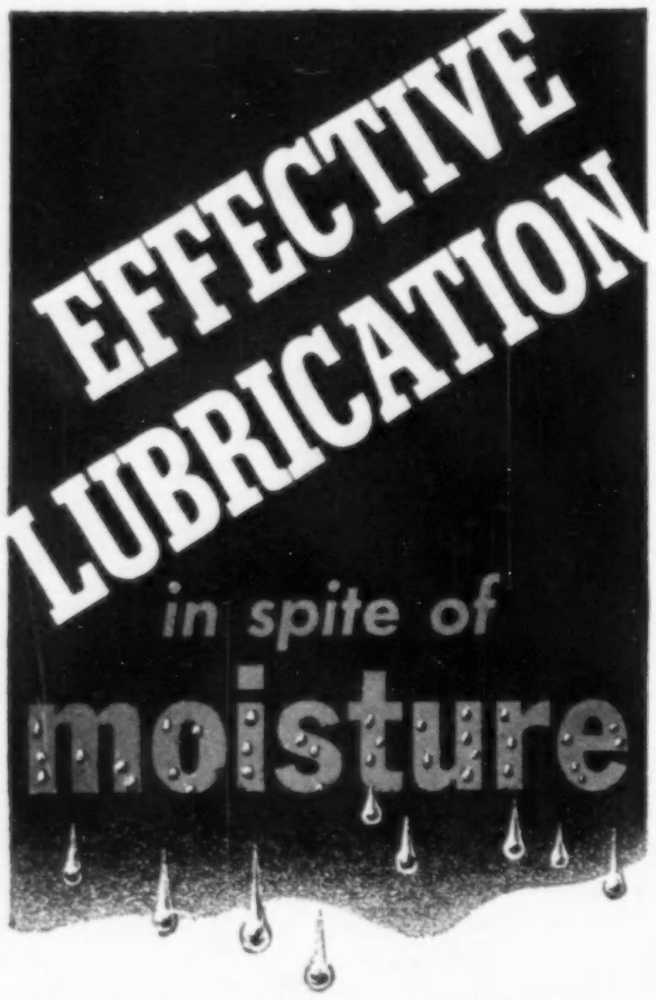
You can add dramatically to your mill's production capacity by replacing worn parts to keep your equipment in better operating condition. Such inexpensive maintenance often can restore *maximum performance* to production equipment. In many cases, your mill's experience with a machine already has established a pattern of service life for certain parts. By keeping genuine replacements on hand, you can avoid paralyzing breakdowns that may tie up your entire production schedule. A Hunter Representative can recommend such positive steps as these, to help you save the profits lost through continued operation of worn, inefficient machinery. This service puts you under no obligation, so call or write today.

JAMES HUNTER

JAMES HUNTER MACHINE COMPANY • NORTH ADAMS, MASS.

Member of American Textile Machinery Ass'n.

Subsidiaries: James Hunter, Incorporated, Greenville, S.C. • Hunter Fiber Machine Co., Los Angeles, California • Thomas Leyland Co., Readville, Massachusetts • Hunter Controls, North Adams, Massachusetts

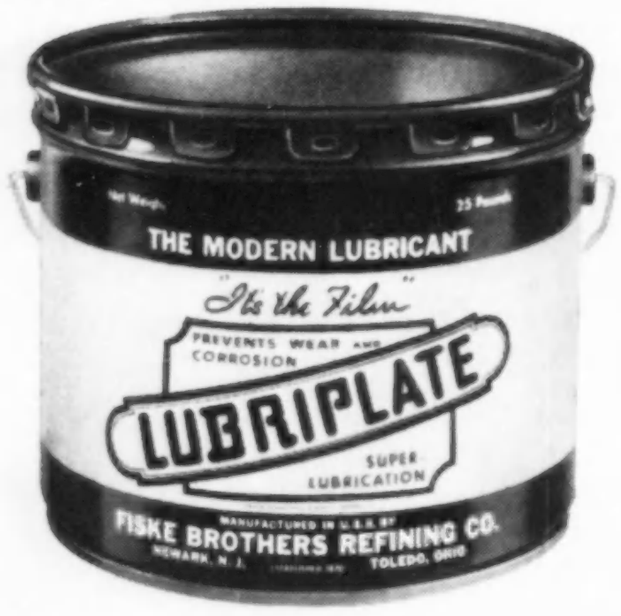


LUBRIPLATE Lubricants provide superior lubrication even in the presence of moisture and steam. They permit high speed operation, have exceedingly long life and do not break down. There is a LUBRIPLATE Lubricant, ranging from the lightest oils to the heaviest greases, to meet every requirement of the textile industry.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



Six Heat Sources Determine Air-Conditioning Loads

Air conditioning is the control of temperature, humidity, purity, and distribution within a conditioned area.

The size of an air-conditioning unit is designated in tons, which is a measure of the cooling capacity. A ton of refrigeration is equivalent to the cooling effect resulting from the melting of one ton of ice in 24 hrs.

As a rule of thumb, approximately 1 hp. is required to produce one ton of refrigeration at normal air-conditioning temperatures. The size of the refrigeration-machine motor is therefore a general guide to the size of the air-conditioning system.

What Is the Load?

The load on an air-conditioning system is the amount of heat that must be removed from or added to a space in a given time. This definition applies both to the load that manifests itself in terms of the actual sensible temperature of the space and that involved in the transfer of humidity since raising or lowering the moisture content requires the transfer of heat.

If heat is to be added, it is a heating load; if heat is to be removed, it is a cooling load.

To determine the cooling load of a building and thus establish the amount of refrigeration needed, you must know what produces the heat and how much is produced.

The following six sources of heat are encountered in any building:

1. Sun load. The sun shining on a building and through the windows carries heat into the building. Heat coming through the windows is felt much sooner than heat coming through the walls.

The rate at which the sun heats the walls depends on wall construction. Thick walls increase in temperature much more slowly than thin walls but hold more heat. This fact has a definite effect on conditions in the building since the walls give up their heat slowly and the effects can be felt long after the sun has passed.

The sun load varies according to season and exposure. The south load has the highest sun load in winter. During both winter and summer, the cast-exposure sun load reaches its peak point in the morning and the west reaches its peak in the afternoon. The sun load on the north exposure results mostly from reflection and is therefore low throughout the year.

2. Transmission load. The heat that comes into or goes out of a room through the windows and walls, because of the difference between the outdoor and indoor temperatures, is the transmission load. On a warm day, heat travels into a room; and on a cold day, it travels from the room.

Transmission load is separate from sun load; for example, the sunny side of a building has a sun load and a transmission load but the shady side has only the transmission load.

3. Occupancy load. Since normal body temperature (98.6° F.) is higher than the desired room temperature, occupants give heat to the air in the room. In addition, people release moisture through perspiration and breathing.

4. Load from lights. Electric lights give off heat in proportion to the wattage of the light bulbs. This heat is included in calculating the cooling load.

5. Miscellaneous loads. The heat from other sources such as electric motors and machines is part of the cooling load.

6. Latent load. Excess moisture in the room is the latent load. This load comes from several sources: ventilation air, moist air infiltrating through window cracks or building openings, moisture-producing equipment such as steam pipes, and people breathing and perspiring.

All these loads are removed by cooling. Excess moisture is removed by cooling the air since air will hold only so much moisture at any given temperature.

To control room humidity, the amount of moisture to be removed from the room air must first be determined. The temperature and the air quantity at the cooling coils or water sprays is then planned to establish the moisture content of the supply air at

SINCE 1869

"VERYBEST" LOOM NECESSITIES

JACOBS

THE BULLARD CLARK COMPANY

JACOBS

SOUTHERN DIVISION
Charlotte, N. C.

NORTHERN DIVISION
Danielson, Conn.

First

from BALTIMORE!

The FIRST TELEGRAPH LINE in the United States was established by Samuel Morse between Washington and Baltimore in 1844.

Courtesy – The Baltimore News-Post

– also from Baltimore...

YOUR *First* CHOICE IN BLACKS

- **DIRECT**
- **ACID**
- **DEVELOPED**
- **ACETATE**
- **FORMALDEHYDE**
- **LOGWOOD**

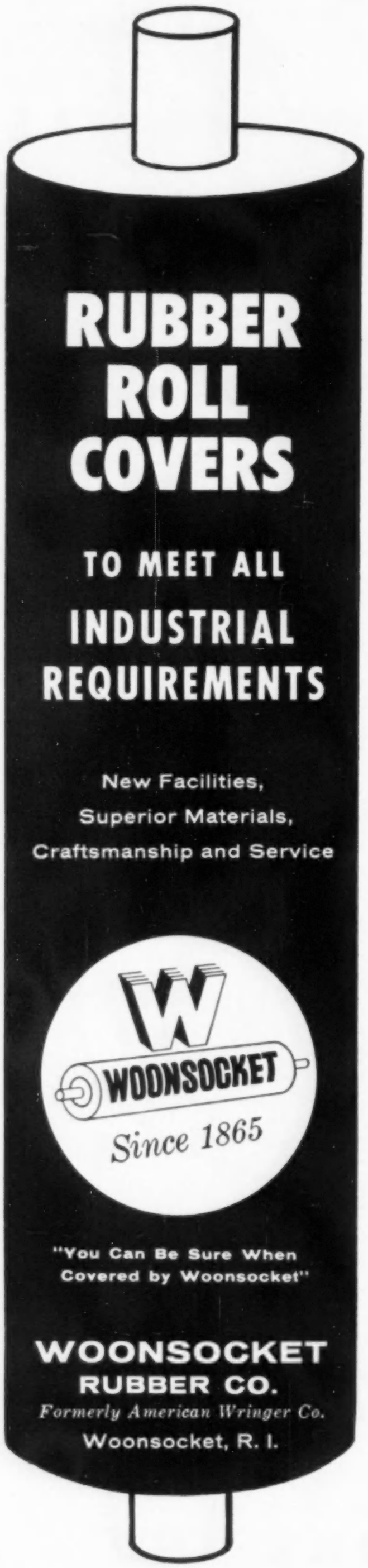
THE HOUSE OF BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from our Baltimore factory.

YOUNG ANILINE WORKS, INC.

OFFICE AND FACTORY: 2701-2733 BOSTON STREET • BALTIMORE 24, MARYLAND

For more data, write this page number on Reader-Service card. →



the proper level to permit absorption of the desired amount of moisture from room air.

Sun Is the Biggest Load

For a typical room without a large number of electric motors and machines, the distribution of cooling loads is:

Sun	50%
Transmission	20%
Lights	18%
Occupancy	12%
Total	100%

This table shows that the sun is the largest part of the total room load. It is also a changing load because the sun moves from one side of the building to the other and in effect can turn on or off any time during the day. Therefore it has considerable effect on the control of the system.

Transmission, the second largest load, varies as the outdoor air temperature varies. This load is zero when outdoor air and indoor air are the same temperature, and it is negative when outdoor air is cooler than indoor air. When the load is negative, heat passes from the room to the outdoors.

Transmission is the only load that can reverse; the other loads can become zero but none will take the load from the room.

Loads Vary for Many Reasons

All the loads can vary within certain limits: the sun load varies with weather conditions and seasons; the load from lights varies by the number and wattage being used at a given time.

Occupancy, transmission, miscellaneous, and latent loads cannot be so readily defined.

During cold weather, heat must be added to a room to offset heat loss through walls and windows. Although heat is still added to the space by occupants, lights, and miscellaneous sources, the transmission loss to the outdoors may be great enough to require additional heat.

Cooling Is Required in Winter

The effect of direct sunlight may offset the outward transmission load so that cooling may be necessary even in winter.

Since outdoor air is used for ventilation, it must be warmed in winter. In a typical system, air is preheated to approximately 50° F. as it enters. Air then passes to the room after it's heated further to produce the room temperature needed by the occupants. In rooms where the heat gain from sun, lights, occupancy, and miscellaneous sources is high, supply air is used without additional heating.

During winter, both heating and cooling loads are present in a building. The sun, lights, and occupancy loads require cooling; the transmission load and outside-air load require heating.

The lights and occupancy loads are the same as in summer. The sun load is less on all exposures except the south. The sun, lights, and occupancy assist in heating a room in winter. In a room without these loads, the outside air and the transmission loss remove heat, which must be offset entirely by heating. *John H. Koonce, Carrier Corp., in Maintenance Engineering Handbook, McGraw-Hill Book Co.*

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 128

ators, and speed reducers. The coupling is for shafts up to $1\frac{7}{8}$ ins. in diameter.

Externally geared hubs are mounted on the shafts and joined flexibly by an internally geared sleeve. Power-transmitting parts are steel and are fully machined. The coupling sleeve is one piece. The coupling is in a two-piece sealed metal cover that prevents the loss of lubricant and entry of contaminants.

Circle T-16 on Reader-Service Card

Plain-Loom Harness Motion

A plain-loom harness motion for looms with single arches has been developed by Steel Heddle Mfg. Co., Special Products Div., Greenville, S. C. The motion is designed for maximum harness space.

The motion can be used in combination with regular harness cams or without cams. Therefore you can weave dobby-effect fabrics or plain-leno marquisette in the inverted way.

Features of the harness motion are (1) simplified oiling, (2) ease of maintenance, (3) low parts inventory, and (4) longer life of harness frames and heddles.

Circle T-17 on Reader-Service Card

Master Winder

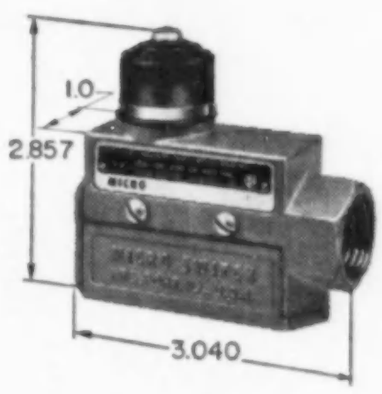
The Avc master winder, for winding card samples of yarns and filaments, is announced by Manufacturers Engineering & Equipment

H MICRO SWITCH Precision Switches

New "E6" and "V6" Enclosed Switches available in 6 actuator designs

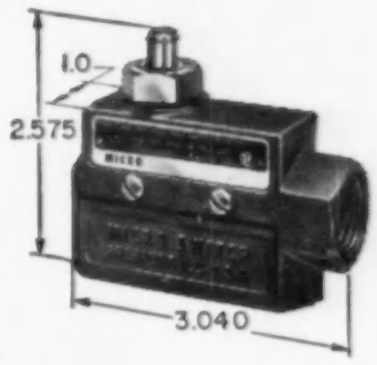
With new ease of installation, improved insulation and sealing, heavier wall sections without change of envelope dimensions, these new switches are interchangeable with our "E" and "V" designs.

Available in six integral actuator designs to meet most precision switch requirements. All six are available in either side mounting (E6) or bottom mounting (V6) style.

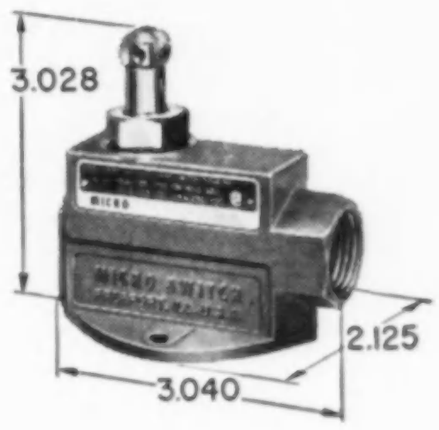


Plunger actuator for straight, in-line operating motion with controlled overtravel. Elastomer actuator boot protects against dirt and moisture.

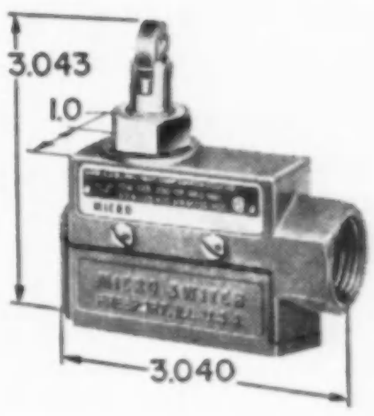
Roller lever actuator for cam or slide motion, adjustable horizontally through 360°, vertically through 225°. Elastomer actuator boot.



Plunger actuator for straight, in-line operating motion with controlled overtravel.

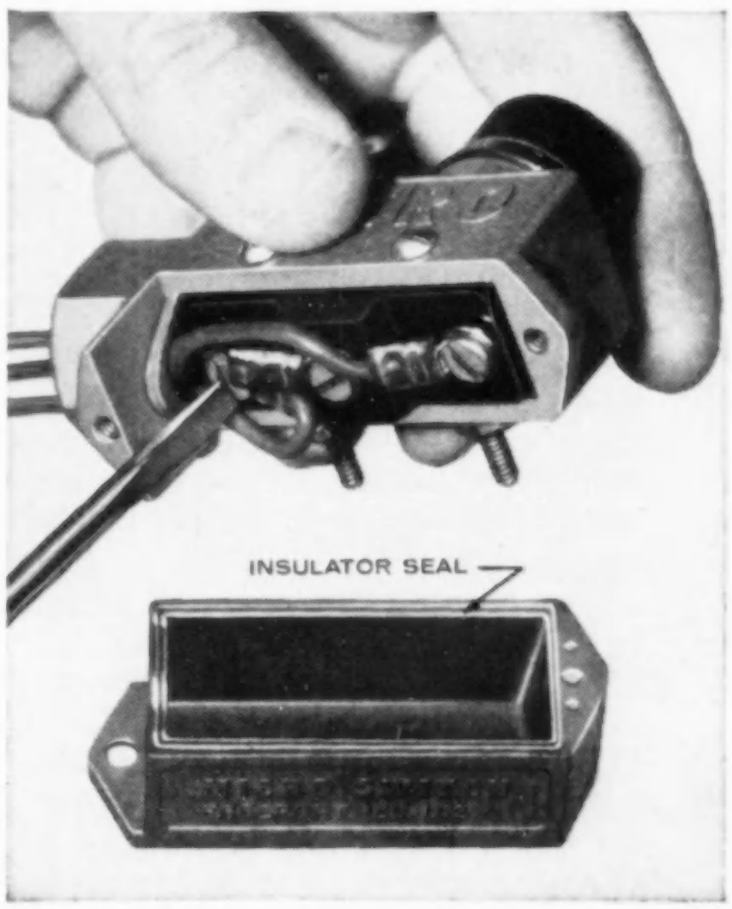


Roller plunger actuator for slow-rise cam or slide motion with controlled overtravel. Roller in line with case.



Roller plunger actuator for cam or slide motion with controlled overtravel. Roller at 90° angle to case.

Roller lever actuator for cam or slide motion, adjustable horizontally through 360°, vertically through 225°



New switch design lets terminal screws project from top portion of the housing. Wiring is easy. Gasket and insulator are one-piece, cemented to bottom housing . . . fewer parts, no separate gasket. The new elastomer insulator-seal provides better insulation and a tighter long-life seal. New housings have thicker walls and greater strength, yet have same outside dimensions and same mounting holes as "E" and "V" switches. New hex-shaped (instead of round) conduit hub greatly facilitates tightening conduit connection. Basic switch is replaceable in all cases.
Send for Data Sheet 145.

MICRO SWITCH . . . Freeport, Illinois, A Division of Honeywell

The two-word name MICRO SWITCH is NOT a generic term.
It is the name of a division of Honeywell.

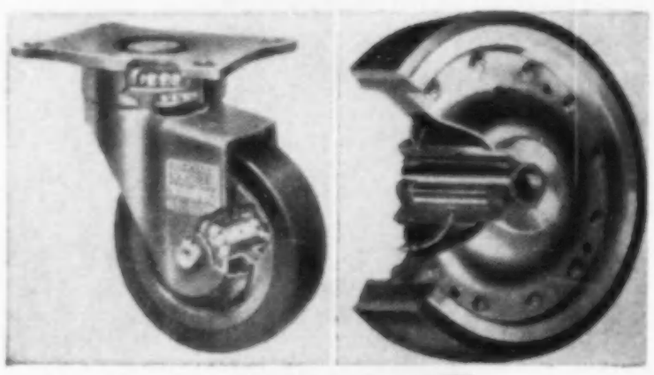
Honeywell

MICRO SWITCH PRECISION SWITCHES

For more data, write this page number on Reader-Service card. →

Investigate the Advantages of

DARNELL
CASTERS AND WHEELS



check these special features

RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

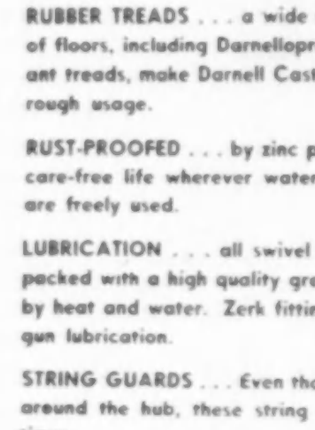
RUST-PROOFED . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

LUBRICATION . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.

STRING GUARDS . . . Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

. . . for the special requirements of

the TEXTILE INDUSTRY



Your **COPY OF THIS NEW**

MANUAL

IS READY—

Write for it!

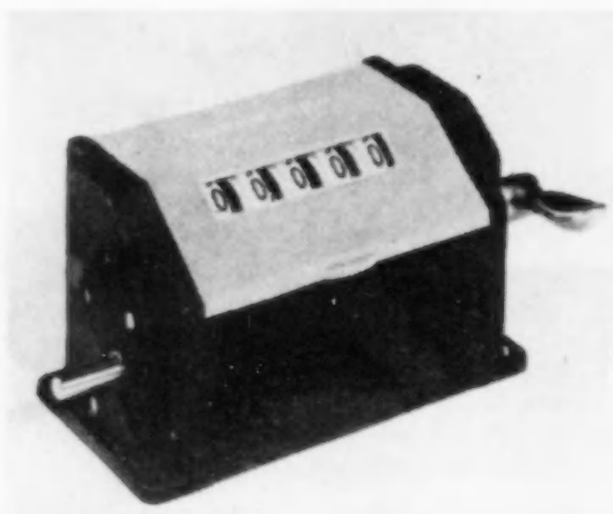
DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

Corp., Hatboro, Pa.

The winder is useful in winding card samples of yarns and filaments for presentation to an instrument such as the Colormaster differential colorimeter to enable sample colors to be measured quickly. Sample deniers can range from 50 den. to 2,500 den.

An automatic counting device in the equipment permits the operator to preselect the number of layers desired of the material under test. When this number of layers is reached, the winder stops automatically.

Circle T-18 on Reader-Service Card



Quick-Reset Counter

A counter, Series 1922, either with or without predetermining wheels has been introduced by Veeder-Root, Inc., 20 Sargent St., Hartford 2, Conn. With the predetermining feature, the wheels can be preset to any number within the counter's capacity of 100,000; and at that preset number, the counter knocks off automatically.

Restting to zero is done instantly by depressing the reset lever through a full 60° arc. The counter will also subtract in the opposite direction if desired. Speeds up to 6,000 rpm. of the drive shaft with 8,000 counts per minute are possible.

Without the predetermining feature and as a plain, high-speed, quick-reset, revolution counter, Series 1522A counter is made for all adding and subtracting counting jobs where high speed, accuracy, and instant resetting are required.

Circle T-19 on Reader-Service Card

Recirculating-Water Control

A material to insure trouble-free maintenance of recirculating-water systems is available from Oakite Products, Inc., 19 Rector St., New York 6, N. Y. The material, Airefiner No. 54, is effective in controlling slime, scale, and algae.

The product can be used in air-conditioning, humidifying, and heat-exchange equipment. Concentrations of 2 to 4 lbs. per 1,000 gals. of water control scale, keep the pH of water in the low-alkaline range, minimize delignification of wooden cooling towers, and prevent the deposit of white coating on equipment.

The material is completely soluble in hot or cold water, is not affected by heat, and is not toxic in the recommended solution.

Circle T-20 on Reader-Service Card

Forged-Steel Gate Valves

Forged-steel gate valves designed to cut maintenance cost to a minimum have been announced by Lunkenheimer Co., P. O. Box 360, Cincinnati 14, Ohio. The valves are made with screw ends and with socket-welding ends.

Each valve model is made in ½-through 2-in. sizes and is rated at 800 psi. 850° F. to 2,000 psi. 100° F.

The valves are of compact design for tight installations, and they work well in high-pressure, high-temperature applications such as hot oil or superheated steam.

Circle T-21 on Reader-Service Card

Electronic Feeler for Looms

The Loepfe optical electronic bobbin feeler for looms [TEXTILE WORLD, Jan., '58, p. 138], being sold in the U. S. and Canada by H. J. Theiler Corp., Whitinsville, Mass., is now available on new Crompton & Knowles looms.

The feeler is available on new C, S, and W looms and for these looms now in mill production.

Circle T-22 on Reader-Service Card

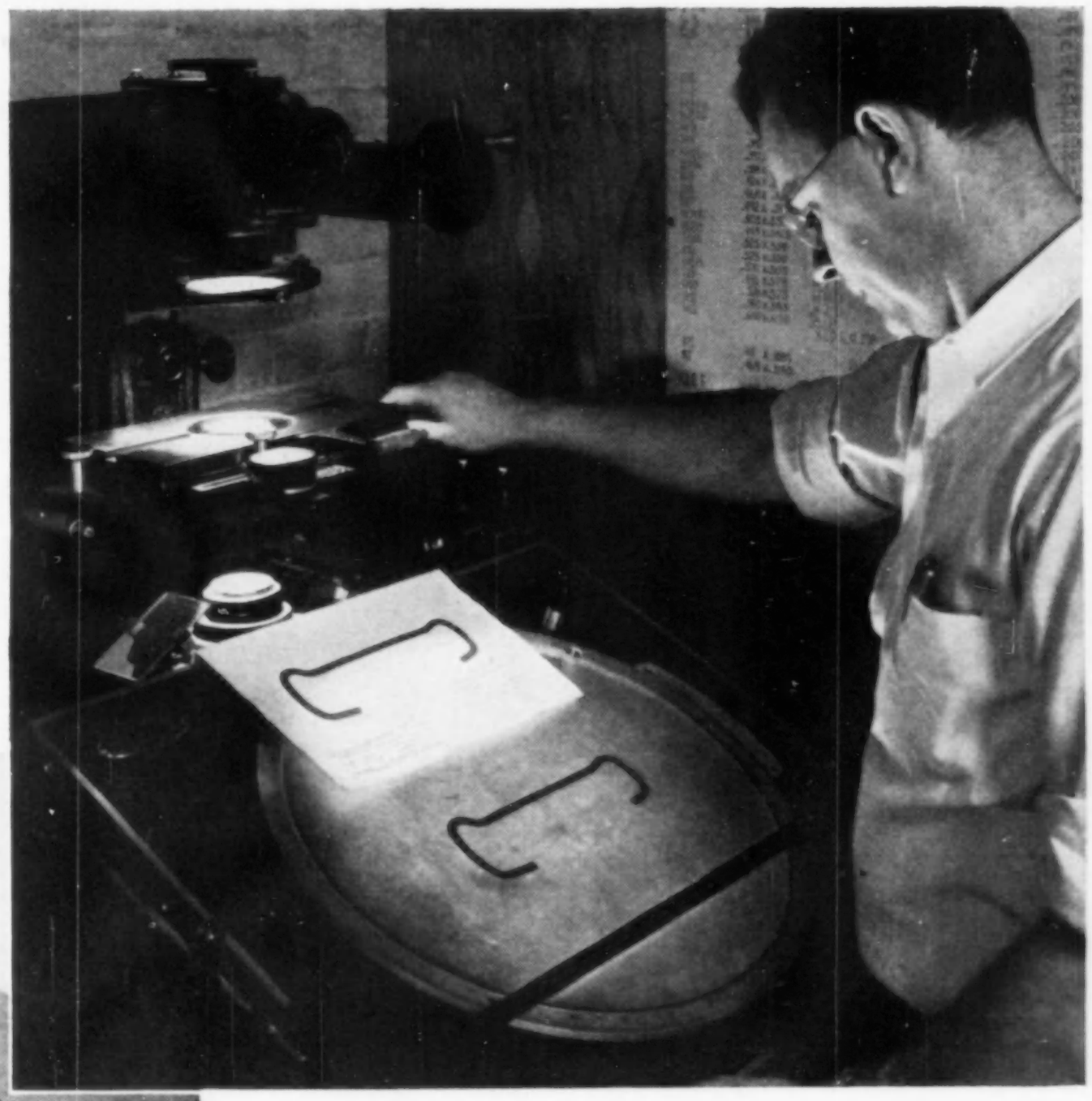
Burst-Strength Tester

The burst-strength tester made by Karl Frank, GmbH, Weinheim, Birkenau, Germany, has been improved by dividing the scale into more measuring ranges. Two additional pressure gauges are used so that four measuring ranges up to 30 kg. per sq. cm. can be obtained.

The pressure gauges are connected in parallel and the 0 to 1, 0 to 6, and 0 to 10 kg. per sq. cm. gauges can be switched on or off by a valve. The 0 to 30 kg. per sq. in. gauge acts as a control instrument.

Compressed air may be supplied by a compressor or a compressed air

When you order travelers made to exact specifications



In the Victor control center, test travelers are magnified to many times normal size on the Comparator screen, to make sure the size and shape conforms exactly to specifications. At left, microscopic inspection determines if surface quality meets required standards.

How near is "near enough"?

AT VICTOR, the travelers you order are never "near enough" until they get the okay of a modern master control center, in progressive checks that far surpass ordinary methods of inspection.

This extra measure of quality control maintains the uniformity in traveler dimensions, weight, and performance that you must have to avoid production lags. Today's high speeds, and other punishing demands placed on travelers by modern equipment, have greatly reduced the permissible "margin for error."

At Victor's master control center, the experience and skill of Victor operatives is supplemented by a series of tests, at each stage of traveler production, using the most advanced techniques and equipment. The metal, shape, weight, temper, and finish undergo thorough physical, chemical, and optical tests and inspection. Every possible control is applied to make sure that every package of Victor Travelers you receive will precisely match original specifications.

For helpful advice in traveler selection, talk to a Victor Service Engineer. Call the nearest Victor office for prompt service.

VICTOR RING TRAVELER DIVISION
OF SACO-LOWELL SHOPS

PROVIDENCE, R.I. . . . 1 Sabin Street . . . . . Tel. DExter 1-0737
GASTONIA, N.C. . . . . 914-916 East Franklin Ave. . . . Tel. UNiv. 4-3221

Accurate
Yarn is under perfect tension from a central location. One dial adjustment changes tension uniformly at all tension stations.
The Lindly Electrotense: Simple, compact, inexpensive. Accurately controls yarn tension from zero to about 20 grams.
DIAL CONTROL
of YARN TENSION
at Any Number of Stations!
The Lindly ELECTROTENSE is the new, inexpensive, electro-mechanical way to control yarn tension from almost zero to about 20 grams. A turn of a single, centrally located dial applies desired tension evenly and simultaneously at all tension stations.
What are the advantages?
The Lindly ELECTROTENSE permits easy, instant change of yarn tension. It results in more uniform beams, more yarn per warp beam, less maintenance and machine down-time, fewer broken ends and better cloth.
GET THE FULL FACTS ON THIS NEW TIME-SAVING, QUALITY-IMPROVING, COST-CUTTING LINDLY SYSTEM. WRITE, WIRE OR PHONE TODAY!
It Pays to Know LINDLY the Lindly Count
LINDLY & COMPANY, INC.
248 HERRICKS ROAD
MINEOLA, NEW YORK

reservoir. A rubber diaphragm is situated between the clamping plate and the test specimen. When the test specimen breaks, the pressure exerted on the diaphragm is released by a valve.

Circle T-23 on Reader-Service Card

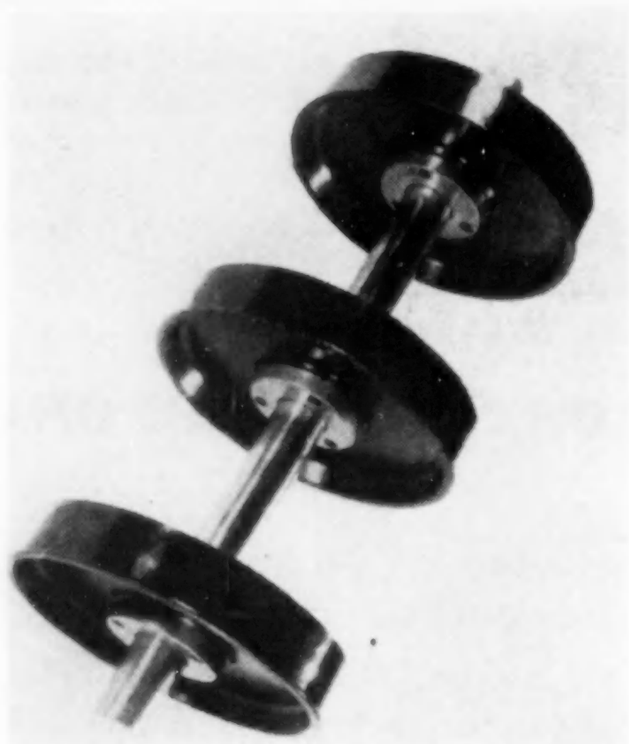
Nylon Mercury Switch

A nylon-enclosed mercury switch that's highly resistant to water, alkalis, shock, and acids has been announced by Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill.

The contact arrangement is single-pole, single-throw; and the switch mounting position determines whether the circuit is normally open or normally closed.

Several switching units with varied electrical ratings and differential angles can be furnished to fit your applications. The switches will operate when they are completely immersed in fluids.

Circle T-24 on Reader-Service Card



Plastic Pulley

A 9-in. sisal-filled phenolic-resin, tape-drive pulley for ball-bearing spinning frames has been announced by Roberts Co., Sanford, N. C.

The pulleys are held to the steel shaft by a patented arrangement and can be tightened without marking or scoring the shaft. Keyways are eliminated.

Circle T-25 on Reader-Service Card

Ultrasonic Soldering Iron

Aluminum can be soldered without flux with a soldering iron developed by Mullard Ltd. and sold by Acoustica Associates, Inc., Glenwood Landing, Long Island, N. Y. Ultrasonic vibrations generated in the tip of the iron blast away oxide formations so that true metal-to-metal bonds are made. Practically any fabricating job on cables, patterns, electrical apparatus, or small castings can be handled by the iron.

Circle T-26 on Reader-Service Card

Plug Valve

A line of stainless-steel plug valves with Teflon sleeves is available from Continental Mfg. Co., 247 Park Ave., New York 17, N. Y.

Circle T-27 on Reader-Service Card

Fork Extension

A special fork extension for its line of low-lift, pallet-type electric power trucks is available from Lewis-Shepard Products, Inc., 125 Walnut St., Watertown, Mass.

Circle T-28 on Reader-Service Card

Electric Actuator

An all-electric actuator for use in conjunction with electronic-control systems is announced by Conoflow Corp., 2100 Archer St., Philadelphia 3, Pa.

Circle T-29 on Reader-Service Card

Transient Converter

A transient converter for use with turbine flowmeters has been developed by Fischer & Porter Co., 950 Jacksonville Rd., Hatboro, Pa.

Circle T-30 on Reader-Service Card

Expandable Plastic

Dylite expandable polystyrene, suitable for pipe insulation and other applications, is announced by Koppers Co., Inc., Pittsburgh 19, Pa.

Circle T-31 on Reader-Service Card

Nutsetters

A line of right-angle nut setters in capacities up to ½-in. bolt size is announced by Thor Power Tool Co., Aurora, Ill.

Circle T-32 on Reader-Service Card

$1400 SAVINGS with DAYTON COG-BELTS*

for Long Shoals Cotton Mills, Inc., Lincolnton, N. C.

"Before switching to Dayton Cog-Belts, we were replacing motor bearings at the rate of one a week and spending $180 a year to have our motors rewound," said Mr. Fred J. Rash, plant electrician for the Long Shoals Cotton Mills. "Belt slippage on three line shaft drives for the carding room was our main trouble. To keep up speed, we overtensioned the belts and resigned ourselves to bearing failures.

"The cost was tremendous . . . amounting to $700.00 a year for new bearings and motor rewinding without adding the cost of over 110 hours of downtime.

"Two years ago we called in the Dayton representative who recommended Dayton Cog-Belts. The principle of raw-edge construction makes good sense, so we tested Cog-Belts on one of the drives. That was the end of our slippage problem.

"In the more than two years since the first installation, we've had only one bearing replacement and absolutely no motor trouble. This means we've already saved ourselves over $1400 in maintenance costs, simply by switching to surer-gripping Dayton Cog-Belts."

Consult the yellow pages of your telephone directory for the name of your nearest Dayton distributor or write, The Dayton Rubber Company, Industrial Replacement Division, Dayton 1, Ohio.

Dayton Rubber

World's Largest Manufacturer of V-Belts

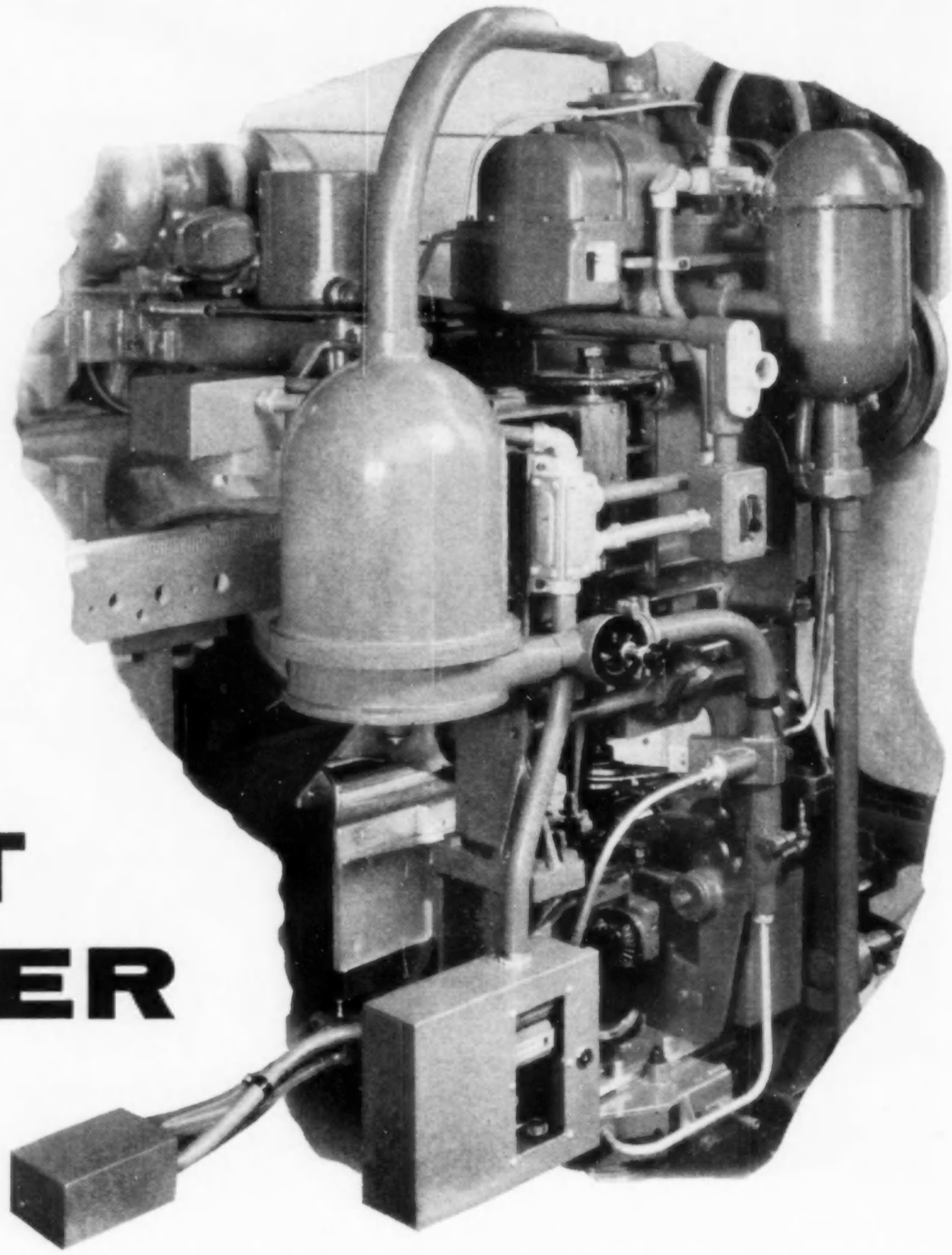
*T.M.

© D.R. 1958

For more data, write this page number on Reader-Service card. →

TO PROVIDE A RELIABLE BOBBIN COUNT WHERE INCENTIVE PAY IS USED . . .

BARBER COLMAN



Automatic

KNOT COUNTER

FOR TYPE C AND CC AUTOMATIC SPOOLERS

This new unit, which can be attached to any Barber-Colman Type C or CC Automatic Spooler, provides a reliable arrangement that will automatically count the number of bobbins put up by each operator in any selected period.

Accuracy is close to 100%. The sensing device is a star wheel, actuated by each pull rod when in its running position, which then closes a switch to operate the counter.

All efforts have been made through mechanical devices, electrical safeties, and cut-out cams to prevent registering of extra and unauthorized counts.

The Knot Counter is available for any number of operators and will give a separate count for each. If the number of operators is changed, the Counter can be changed to correspond. Also, if a change is desired in the number of units per operator, this can be accomplished by changing the cam position. Complete installation and operating instructions are furnished, including templates to aid installation by any competent mill mechanic. *For details, inquire of your Barber-Colman representative.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. — GREENVILLE, S. C., U.S.A. — MANCHESTER, ENGLAND — MUNICH, GERMANY

INDIA
Batliboi & Company
Forbes Street, Fort
Bombay, India

MEXICO
J. Rabasa
Isabel la Catolica 45-913
Apartado 7348
Mexico D.F., Mexico

BRAZIL
Industria e Comercio de Maquinas S. A.
"COMASA"
R. Glicerio, 537/547
Sao Paulo, Brazil

JAPAN
Do-Yei Shoji Kabushiki Kaisha
Atlas Building (7th Floor)
11, Bingo-Machi, 3-Chome,
Higashi-Ku
Osaka, Japan

PAKISTAN
Associated Agencies
(M'cr.) Ltd.
Piccadilly House
11 Piccadilly
Manchester 1, England

PAKISTAN
Associated Agencies
(M'cr) Ltd.
730, Muhammadi House,
McLeod Road
Karachi 2, Pakistan

INTERNATIONAL
... 330 exhibitors
from 14 countries

1958

TEXTILE RECORDER

International

TEXTILE MACHINERY
AND ACCESSORIES

exhibition

BELLE VUE MANCHESTER ENGLAND
15·25 OCTOBER 1958

COMPREHENSIVE
... 150,000 sq. ft.
of stands

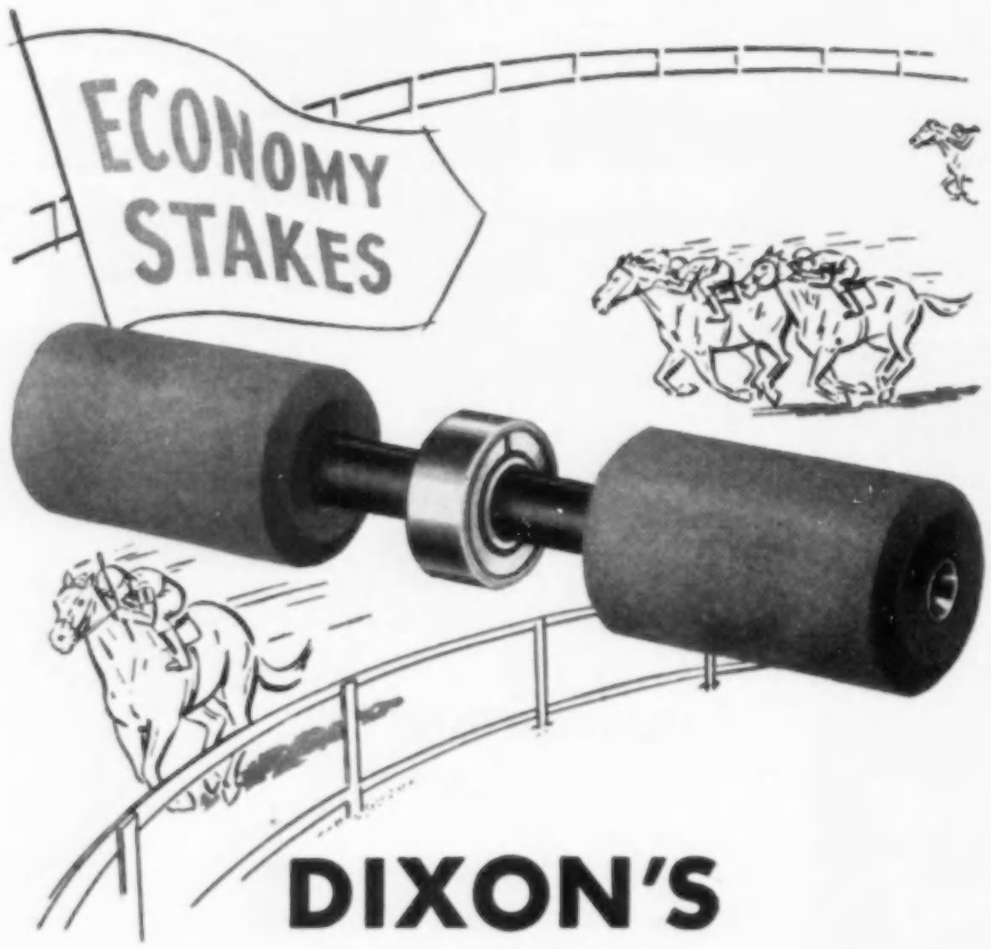
SPECIALISED
... all that is new
in machines and
methods for the
textile industry

for information about exhibits and exhibitors and the arrangements for visitors to this event, write to the organisers :

TEXTILE RECORDER (MACHINERY & ACCESSORIES) EXHIBITIONS LTD., Old Colony House, South King Street, Manchester, 2.

For more data, write this page number on Reader-Service card. →

A Sure Winner!



DIXON'S

"Inner Race" Front Roll

Jockeys know the inside rail means greater gain from less distance. For similar reasons, you're sure to win with Dixon's anti-friction front top roll. Only the small diameter inner race turns, requiring far less travel and wear — and *only* Dixon offers this cost-saving advantage. Note these exclusive, unequalled Dixon front roll features:

1. Precision ground balls and raceways.
2. Maximum radial load of 232 lbs. at 300 rpm.
3. Lifetime lubrication held in by lint-proof contact seals.
4. Less wear, longer life because only inner race turns.
5. Unique swivel mounting assures front roll and front saddle self-align automatically.
6. Zero thrust load, due to self-alignment features.
7. Concentricity within .001".
8. Assembled from only 2 major pieces.
9. Simple buffing without attachments.
10. Allows side piecing up.

Leading Textile Mills Cut Drafting Costs

Dixon Super Saddle Guides changeovers equipped with the exclusive Dixon rolls eliminate all top roll cap bars and all oiling, can be installed in two steps to spread out investment: Front roll and saddle combination first; later adding middle rolls, back rolls and saddles — no parts wasted, no costly elements to throw away. Dixon Saddle Guide assemblies for more than 1,000,000 spindles (Duo-Roth or Casablanca type spinning) have been supplied to textile leaders like Cone Mills, Columbus Mfg. Co., American & Efird Mills, Inc., Gastonia Combed Yarn Co. and Montreal Cottons, Ltd.

Write for complete data on
Dixon Super Saddle Guide

723-7

DIXON CORPORATION
BRISTOL RHODE ISLAND

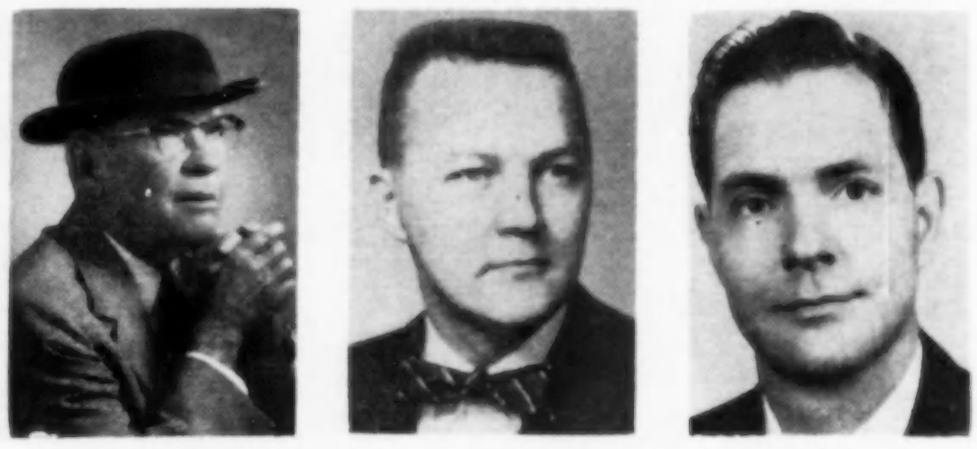
Southern Sales: R. E. L. Holt, Jr., and Associates, Inc.
Box 1319, Greensboro, N. C. and Lawyer's Office
Building, P. O. Box 321, Greenville, S. C.

Manufacturers of Drafting Devices since 1876

142 ← For more data, write this page number on Reader-Service card.

NEWS ABOUT SUPPLIERS

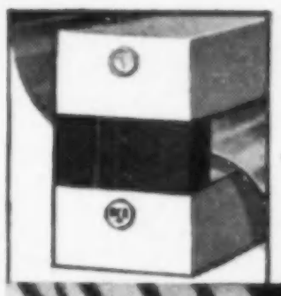
ACME STEEL CO., Chicago, Ill.—Has elected H. L. Bills executive vice president for organizational planning. . . . **AIR REDUCTION CO., INC.**, New York, N. Y.—Plans to build a chemical plant and an extensive pilot-plant facility costing about $12,000,000. The plant will be built at Calvert City, Ky., and will produce polyvinyl-alcohol resin. The pilot-plant facility will be built at Bound Brook, N. J. . . . **ALLIED CHEMICAL CORP., SEMET-SOLVAY DIV.**, New York, N. Y.—Has appointed Eaton Chemical & Dyestuff Co., Detroit, Mich., agents to market A-C Polyethylene 6 and 629 in Michigan. H. J. Daigneault of the National Aniline Div. has been elected president of The Vat Dye Institute, Inc. . . . **AMERICAN CYANAMID CO., FIBERS DIV.**, New York, N. Y.—Has appointed J. E. Ryan woolen and worsted representative for the woven-goods department. . . . **AMERICAN TEXTILE MACHINERY ASSOCIATION**, North Adams, Mass.—Has amended its constitution and by-laws to include knitting-machinery manufacturers as members.



L. J. "LUKE" CASTILE (left) has retired from Keever Starch Co.'s Textile Sales Div., Greenville, S. C. LEONARD L. LEONAITIS (center) has been named plant manager of Lassiter Corp.'s Georgia Div. Atlanta, Ga. J. B. WILLIAMSON (right) has been named to the staff of the Atlanta, Ga., office of Ciba Co., Inc.

APPLETON MACHINE CO., Appleton, Wis.—Has bought Doven Machine & Engineering, Inc., Chicago, Ill. The company has opened a new Chicago sales office and show room. W. Boas will be in charge. . . . **ARMOUR & CO.**, Chicago, Ill.—Has promoted L. M. Miller to the newly created position of sales manager for the aliphatic-organic-derivatives department of the Chemical Div. The Industrial Div. has created a Product-Planning Dept. to seek out, evaluate, and recommend new-product ideas and new market opportunities. . . . **BECCO CHEMICAL DIV., FOOD MACHINERY & CHEMICAL CORP.**, Buffalo, N. Y.—Has promoted J. R. Hopkins to assistant sales manager. D. H. Nelson has been promoted to division manager. . . . **CAMERON & BARKLEY CO.**, Jacksonville, Fla.—Has been appointed by Dayton Rubber Co. as an authorized distributor for Dayton V-belt drives with complete stocks for general industrial service. . . . **CINDET CHEMICALS, INC.**, Greensboro, N. C.—Is the new name of Amalgamated-Southern, Inc.

CLINTON CORN PROCESSING CO., Clinton, Iowa—Has named G. Henderson a sales representative for the textile division. . . . **COLUMBIA-SOUTHERN CHEMICAL CORP.**, Pittsburgh, Pa.—Has named G. W. Sadler technical representative for its Boston, Mass., district sales office. . . . **CONTAINER CORP. OF AMERICA**, Chicago, Ill.—Has appointed T. L. Benson, Jr., general manager. . . . **CREST CHEMICAL CORP.**, Newark, N. J.—Has appointed L. Wheeler as its sales manager for New England. . . . **CURTIS & MARBLE MACHINE CO.**, Worcester, Mass.—Has appointed H. W. Bagley to handle woolen and worsted machinery sales.



...GATEWAY TO SAFETY FROM TRAMP METAL

"Piles of Grief" that could have been prevented with the RCA Metal Detector!

Textile mills frequently report tremendous losses caused by tramp metal. Don't let such a "nightmare" threaten your production profits! Automatically, the RCA Metal Detector specially designed for textile mills, finds hidden metal particles of all types—both magnetic and non-magnetic—even though they are woven or knit into the cloth. And, to be detected, the metal needn't be any bigger than the dot at the end of this sentence.

Used on strip material traveling at speeds from 15 to 1000 ft. per min., with full inspection sensitivity, the RCA Electronic Metal Detector can be arranged to sound an alarm, and/or stop the traveling material. It can pay for itself quickly, many times over through savings in product, decreased downtime, and longer life of costly machinery.

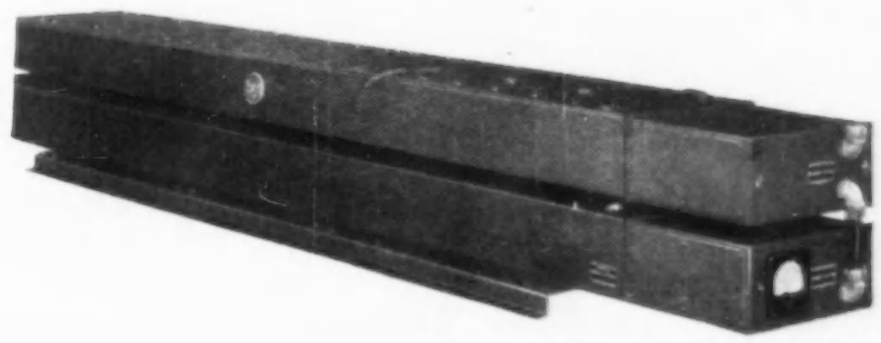
Find out today how the RCA Metal Detector can save you money. Write for latest literature, RCA, Dept. H-140, Building 15-1, Camden, N.J.

Tmk(s) ®

RADIO CORPORATION of AMERICA

CAMDEN, N. J.

In Canada: RCA VICTOR Company, Limited, Montreal

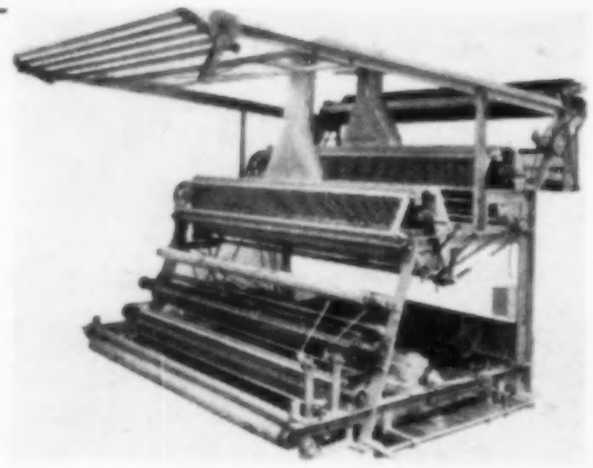


RCA ELECTRONIC METAL DETECTOR

For more data, write this page number on Reader-Service card. →

American . . .

LOOP SPLITTING AND SHEARING MACHINE



90 inch embroidery thread splitting and shearing machine

Shears Designed & Built for special purpose

New Shear Cylinders Built for all makes of Shearing machines

We Design, Engineer and Build special and Automatic Equipment . . .

Rebuild & repair old or damaged shear cylinders

AMERICAN PRODUCTION MACHINE COMPANY

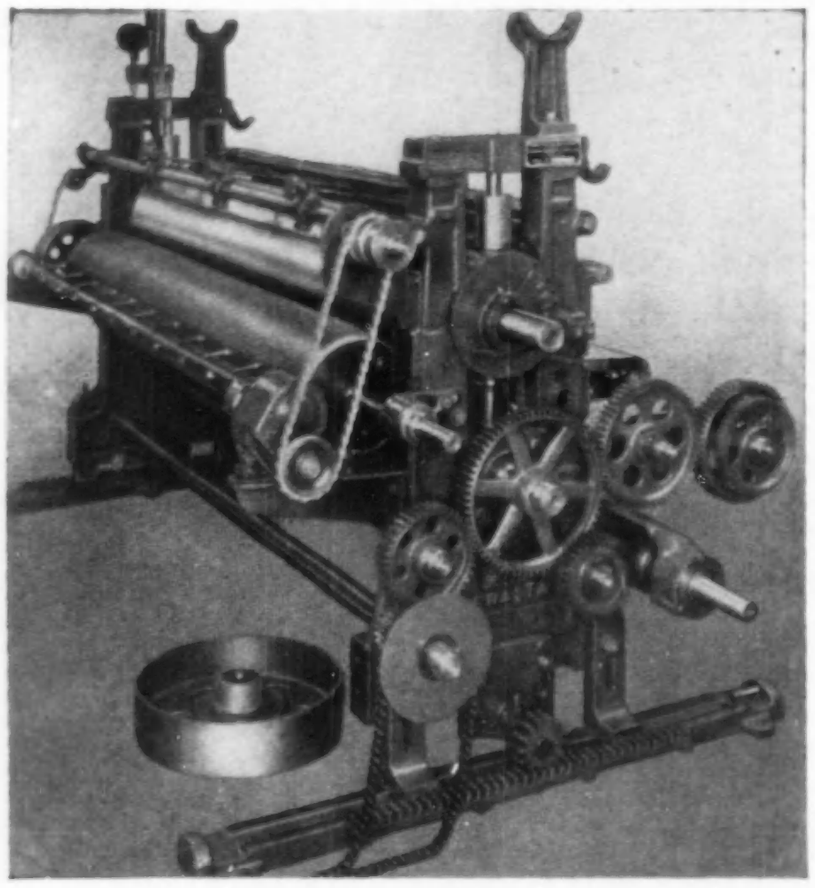
109 THIRTY-FIFTH STREET, UNION CITY, NEW JERSEY

"CONVERSION UNITS"

WILL INCREASE the EFFICIENCY of your

PERALTA® MACHINES

CONVERT NOW TO OUR NEW DESIGN BY INSTALLING:



- Off-Set Roll Arrangement
- Doffing Device Attachment
- Hydraulic Pressure

Write us regarding our new type DOUBLE RUB TAPE CONDENSER for adaptation to woolen cards

Duesberg-Bosson of America, Inc.

Main Street Jefferson, Mass. P. O. Box 25

NEWS ABOUT SUPPLIERS Continued

DEWEY & ALMY CHEMICAL CO., Cambridge, Mass.—Plans to build a new plant at Owensboro, Ky., which will more than double present capacity for vinyl-acetate polymers and copolymers and styrene-butadiene copolymer latices.

DIEHL MFG. CO., Somerville, N. J.—Has named E. Lindberg, Jr., assistant sales manager. . . . **DOW CHEMICAL CO.**, Midland, Mich.—Has named S. Helfand and W. G. Kirkman to the staff of the textile development group at Williamsburg, Va. . . . **E. I. DU PONT DE NEMOURS & CO., INC.**, Wilmington, Del.—Has opened a new $5,000,000 laboratory to provide service to customers and for evaluation of new or improved products of the company's Electrochemicals & Pigments Depts. W. S. Carpenter, 3rd, has been named assistant general manager of the Electrochemicals Dept. . . . **FIFE MFG. CO., INC.**, Oklahoma City, Okla.—Has appointed R. W. Ott, Jr., vice president in charge of sales.

ALBERT P. SHUTTS (left) has been promoted to sales manager of Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo, N. Y. RICHARD B. STEVENS (center) has been appointed district manager of the Greensboro, N. C., sales office of Steel Heddle Mfg. Co., Philadelphia, Pa. WESLEY L. PRINCE, JR., (right) has been appointed Southern district sales manager for Hartford Rayon Co., New York, N. Y.

FOOD MACHINERY & CHEMICAL CORP., New York, N. Y.—Has appointed R. F. Moran division manager of the Westvaco Mineral Products Div. The division has also named R. C. Tower sales manager and S. M. Cimino resident manager of the Newark, Calif., plant. Westvaco Chlor-Alkali Div. has appointed R. J. DeLargey division manager. J. R. Harris has been named sales manager of the division. . . . **GENERAL LATEX & CHEMICAL CORP.**, Cambridge, Mass.—Has named W. H. Jefferson assistant to the president. W. J. Watson will succeed Mr. Jefferson as general manager of the Ashland, Ohio, plant. . . . **GOODYEAR TIRE & RUBBER CO.**, Akron, Ohio—Has named C. H. Johnson division representative for the Belting Sales Dept. of the Industrial Products Div., assigned to the Akron office.

INSTRON ENGINEERING CORP., Quincey, Mass.—Has moved to a new, modern plant at 2500 Washington St., Canton, Mass. . . . **INTEX CHEMICAL CORP.**, Lodi, N. J.—Has appointed W. B. Mason general sales manager. . . . **KELCO CO.**, New York, N. Y.—Has appointed R. E. Bermudez assistant division manager of the central division with headquarters in Chicago, Ill. H. M. Swenson has been appointed Central-South sales representative with headquarters in New Orleans, La. . . . **KOPPERS CO., INC., TAR PRODUCTS, DIV.**, Pittsburgh, Pa.—Has appointed B. O. Wheeley, formerly assistant sales manager of the division, manager, product development. W. M. S. Riley has been appointed administrative assistant to Mr. Wheeley. W. M. Lee has been named manager, analytical laboratories. . . . **LAMBETH ROPE CORP.**, Kings Mountain, N. C.—Has named J. E. Ford to the narrow-fabrics division.

LAYTON-GREENFIELD, Coatesville, Pa.—Has named E. L. Porter to the sales force. . . . **MONSANTO CHEMICAL CO.**, St. Louis, Mo.—Has named A. P. Kroeger director of mar-

This battery of Kidde-Johnson Slashers is in operation at a leading southern mill.

Versatile Kidde-Johnson Warp Sizer HANDLES ALL YARNS

The all-purpose, high speed Kidde-Johnson Slasher is versatile because . . .

. . . it will slash yarns of any fiber—filaments or spuns—from the finest count for delicate fabrics to the heaviest denier tire cord.

. . . its production capacity can be expanded to meet future needs . . . drying cylinders, single or combination quetsches can be added, head ends extended and/or widened.

. . . it is constructed to fit your requirements . . . for silk system slashing (single beam to loom beam), cotton system (from several section beams to loom beam) or both.

Here are some other outstanding features . . .

1. A smooth all electric drive in single or multi-motor arrangement.

2. Loom beam rigidly supported in ball bearings close to beam flange. Will easily accommodate various width loom beams.

3. Size level, size temperature, and cylinder temperatures are precisely controlled individually or in groups.

4. Application and impregnation of size by pneumatically loaded quetsch rolls is uniform throughout the run.

5. Fingertip calibration of stretch with a stretch indicator that gives continuous indication.

6. Stainless steel lead-in and idler rolls, solution pan, botton quetsch roll, cylinders, and split rods.

7. "Teflon" coated cylinders to immunize against sticking. Also moisture content controls, viscometers, etc.

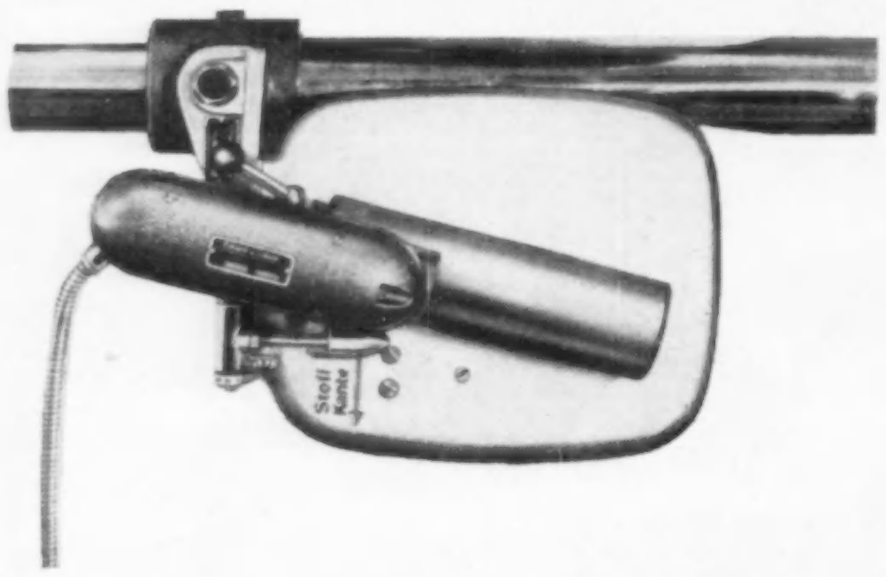
For full information on modernization of your present slashing equipment or on complete new slasher installations, call PILGRIM 8-8100 or write . . .

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.



New Motor Driven Mechanical Cloth Guider

Complete line of guiders, selvage feelers and finishing machinery accessories

Erhardt & Leimer, Augsburg, Germany

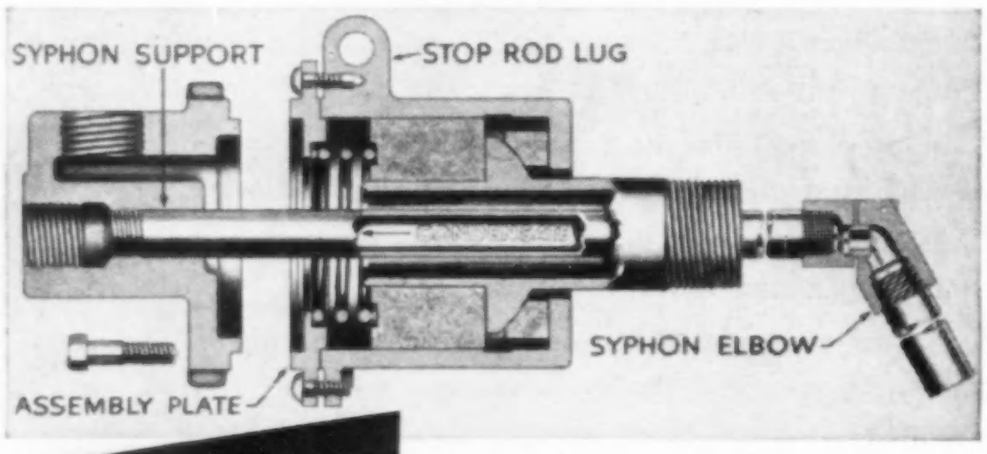
Represented by

Ernest L. Frankl Associates

515 Madison Ave., New York 22, N. Y.

TRY THIS on your Dry Cans and 30" Slasher Cylinders

We'll gladly furnish a pair of these units for 90-day obligation-free trial in your mill. The Type SB2P is self-supporting, completely packless, needs no lubrication or adjustment. The Johnson Syphon Elbow permits the use of two straight pipes instead of an unwieldy curved syphon pipe, is hinged to pass right through the joint.

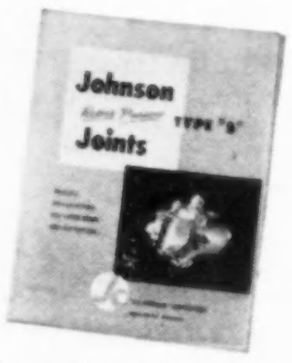


Johnson ROTARY PRESSURE Joints

First in the Textile Industry

Write for Catalog S-3002

Shows self-supporting Johnson Joints for all needs . . . on print cans, calenders, compressive shrinkage ranges, big 5′ and 7′ cotton slashers, dry cans, etc.

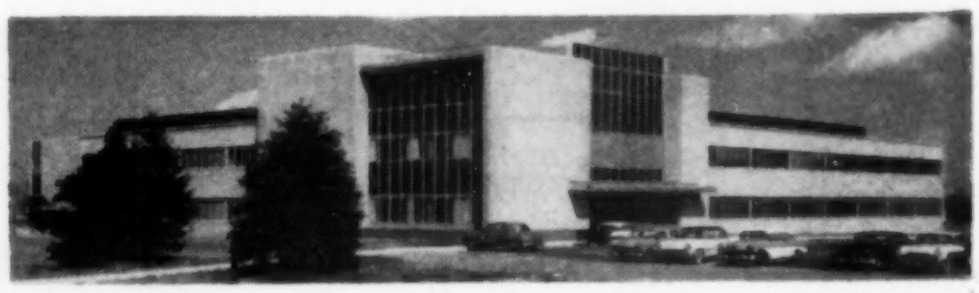


THE JOHNSON CORPORATION

814 Wood St., Three Rivers, Mich.

NEWS ABOUT SUPPLIERS Continued

keting for the Organic Chemicals Div. Mr. Kroeger succeeds J. L. Hammer, Jr., who is resigning. The Plastics Div. has appointed Dr. R. I. Dunlap to the newly established position of production technical-service manager for the division's Eastern operation. . . . **NATIONAL VULCANIZED FIBRE CO.,** Wilmington, Del.—Has appointed D. W. Stewart Chicago, Ill., district sales manager. Mr. Stewart succeeds J. R. Kallaher who has been named to the newly created post of general sales manager of the company. . . . **NATIONAL WHOLESALE DRY GOODS ASSOCIATION, INC.,** New York, N. Y.—Has appointed C. M. Sullivan executive vice president.



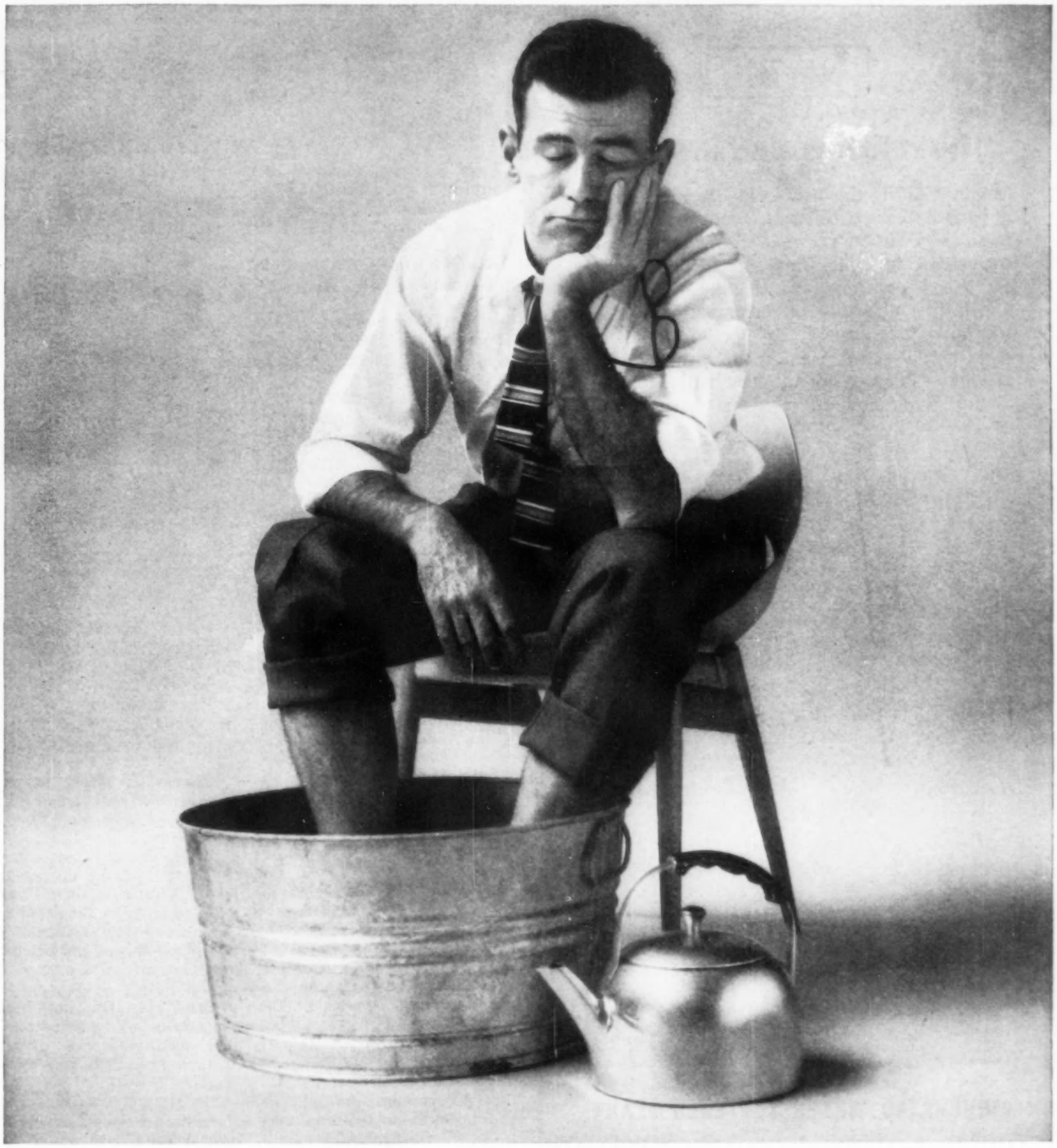
ATLAS POWDER CO., Wilmington, Del., has built this new $3,000,000 technical center in suburban Wilmington. It will provide quarters for the company's expanded program of basic research and chemical-product development.

B. F. PERKINS & SON, INC., Holyoke, Mass.—Has named E. B. Norman assistant manager. He will be in charge of sales to the paper and textile industries. . . . **PFAUDLER CO., DIV. OF PFAUDLER PERMUTIT, INC.,** Rochester, N. Y.—Has named A. L. Gray director of sales. . . . **PUTNAM CHEMICAL CORP.,** Beacon, N. Y.—Has named H. F. Holmes to its sales staff. He will cover the Pennsylvania and Maryland territories. . . . **REYNOLDS METALS CO.,** Richmond Va.—Has moved its sales headquarters from Louisville, Ky., to Richmond, Va.

RIGGS & LOMBARD, INC., Lowell, Mass.—Has announced that manufacture of Parks & Woolson wet- and dry-finishing machinery will continue at the company's plant in Springfield, Vt. . . . **J. E. RHOADS & SONS,** Wilmington, Del.—Has appointed W. F. Decker Midwest manager with headquarters in Chicago, Ill. J. W. Mitchell has been named Southern manager with headquarters in Atlanta, Ga. . . . **SANDOZ, INC.,** New York, N. Y.—Has named M. Hunter to its technical sales staff in Charlotte, N. C.

SINCLAIR CHEMICALS, INC., New York, N. Y.—Has appointed W. J. Arnold sales representative with headquarters in New York. His territory will include metropolitan New Jersey and New York, and portions of Connecticut and Massachusetts. . . . **STEIN HALL & CO., INC.,** New York, N. Y.—Has named R. Neuer sales representative in the company's branch sales office in New York. . . . **TEXIZE CHEMICALS, INC.,** Greenville, S. C.—Has named T. E. Chantron director of advertising. . . . **TEXTILE MACHINE WORKS,** Reading, Pa.—Has announced a reorganization of the service and sales departments of its Knitting-Machine Div., in which W. A. Dufft has been promoted from service manager to assistant sales manager. H. Fiedler has been promoted from manager of the Wire Products Div. to the position of general sales manager.

VICKERS, INC., Detroit, Mich.—Has appointed A. Laird manager of the company's Atlanta, Ga., office. D. Rhodes has been promoted to the position of district sales manager with headquarters at Rochester, N. Y. A. Trail, who had headed the Rochester office, has been promoted to district sales manager of the company's Cleveland, Ohio, office. Vickers-Sperry of Canada Ltd. has opened a new office for sales, service, and repair of Vickers oil-hydraulic components at 150 W. 1st Ave., Vancouver, B. C. . . . **VICTOR RING TRAVELER DIV., SACO-LOWELL SHOPS,** Providence, R. I.—Has appointed M. D. Crawley to its Southern sales staff. He will service textile mills in some parts of Georgia, Alabama, and Tennessee. . . . **WHITIN MACHINE WORKS,** Whitinsville, Mass.—Has acquired Landis Machine Co., St. Louis, Mo.



DOG TIRED from looking for a good, dependable source for needles? Rest easy! For the finest quality needles for knitting, sewing, felting or tufting, just call . . .

THE TORRINGTON COMPANY

Needle Makers Since 1866

Torrington, Conn., U.S.A. • Bedford, P.Q., Canada • Coventry, England

Branches to serve you are located in: New York • Philadelphia • Chicago • Boston • Greensboro, N. C. Atlanta • St. Louis • Toronto, Ont., Canada • Broadgate House, 7-10 Eldon St., London E.C. 2, England
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave., Los Angeles 62, California

For more data, write this page number on Reader-Service card. —▶

Watch lint, oil, smut

vanish

from looms and motors

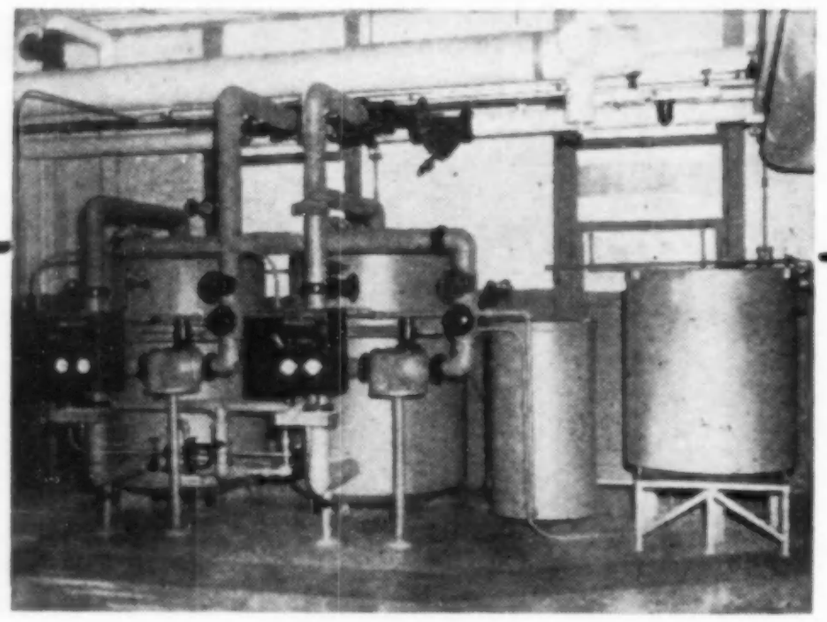
Oakite "117", the new cold cleaning solvent, is perfect for textile mills. Brush it on or spray it ... blow it off or wipe it — and watch how soils literally vanish from looms, motors, twisters, reed parts and other textile equipment. Especially effective on combinations of lint, grease, oil and smut.

Fast dry-down, high flash point, non-conducting — no wonder so many mill people say Oakite "117" is just what they've been looking for. Write for special Service Report giving details, to Oakite Products, Inc., 26C Rector Street, New York 6, N.Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE®
MATERIALS · METHODS · SERVICE
SCIENCE

Export Division Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada



INVERSAND WATER SOFTENER PLANT

Producing

CLEAR-IRON FREE 100% SOFT WATER

Often For As Little As
1¢ per 1000 Gallons

Troubled with harshness, poor finish, uneven shades, redyes, seconds, and other product difficulties—?? The secret of uniformity may lie in your water supply. May we check it for you?

HUNGERFORD & TERRY, INC.

CLAYTON 9 NEW JERSEY

NEWS ABOUT MEN

P. S. Bailey, president and treasurer of Clinton Cotton Mills and Lydia Cotton Mills, Clinton, S. C., has been elected president of the South Carolina Textile Manufacturers Association.

J. A. Baker has been elected president of Hadley-Peoples Mfg. Co., Siler City, N. C.

Carlisle A. Bethel has been appointed to the board of Hanes Dye & Finishing Co., Winston-Salem, N. C.

Robert Bickford has been named assistant superintendent of Caron Spinning Co., Rochelle, Ill.

Joseph Black has been appointed overseer of carding at Ware & Hampshire Woolen Cos., Ware, Mass.

Robert B. Colbert, Jr., has been elected president and general manager of Wayne Knitting Mills, Fort Wayne, Ind.

Fred B. Dent, Mayfair Mills, Arcadia, S. C., has been elected vice president of the South Carolina Textile Manufacturers Association.

Wilfred Deschenes has resigned as overseer of carding at Doyle Carpet Co., Franklin, Mass.

Gordon E. Eggleston has been named overseer of the cloth room at W. S. Libbey Co., Lewiston, Me.

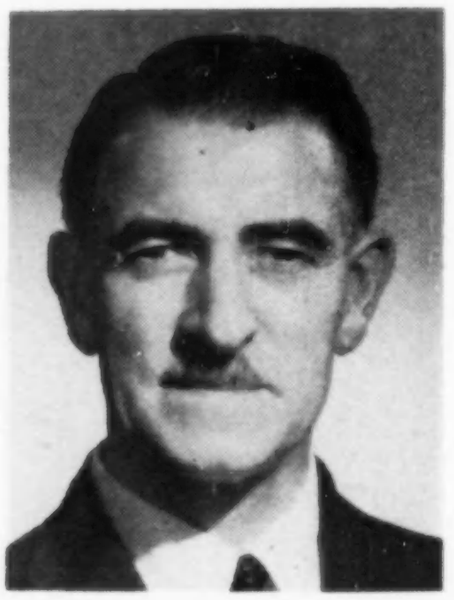
Frank B. Ellis has resigned as vice president and sales director of Wunda Weve Carpet Co., Greenville, S. C.

Garland Embry has been named a vice president of Swift Mfg. Co., Columbus, Ga.

Oswald A. Fitzpatrick has joined J. P. Stevens & Co.'s newly created men's and boys' outerwear and sportswear section, New York, N. Y.

G. A. Frost has been elected vice president of Cannon Mills Co., Kannapolis, N. C.

J. C. Godfrey has been named to a management position at Hart Cotton Mills, Tarboro, N. C.



GEORGE E. MacPHEE has been appointed director of manufacturing for Bigelow-Sanford Carpet Co., Inc., New York, N. Y. He will be responsible for all carpet- and yarn-making operations.

Myron Herschler has been appointed head of Dept. A of M. Lowenstein & Sons, Inc., New York, N. Y. Dept. A is a new department that will create and develop knitted fabrics in plains and prints.

Charles C. Hertig has retired as board chairman of Bibb Mfg. Co., Macon, Ga.

E. H. Hines, Jr., an executive in the worsted division of Pacific Mills at Southern Pines, N. C., has been promoted to executive vice president in charge of worsted manufacturing.

Frank Ix, III, has been named head of the government and industrial-fabrics department at Frank Ix & Sons, New York, N. Y.

Arthur Jackson has been named plant manager of St. Marys Woolen Mfg. Co., St. Marys, Ohio.

Gaston Jennings has been named manager of J. P. Stevens & Co.'s Aragon Mill at Rock Hill, S. C.

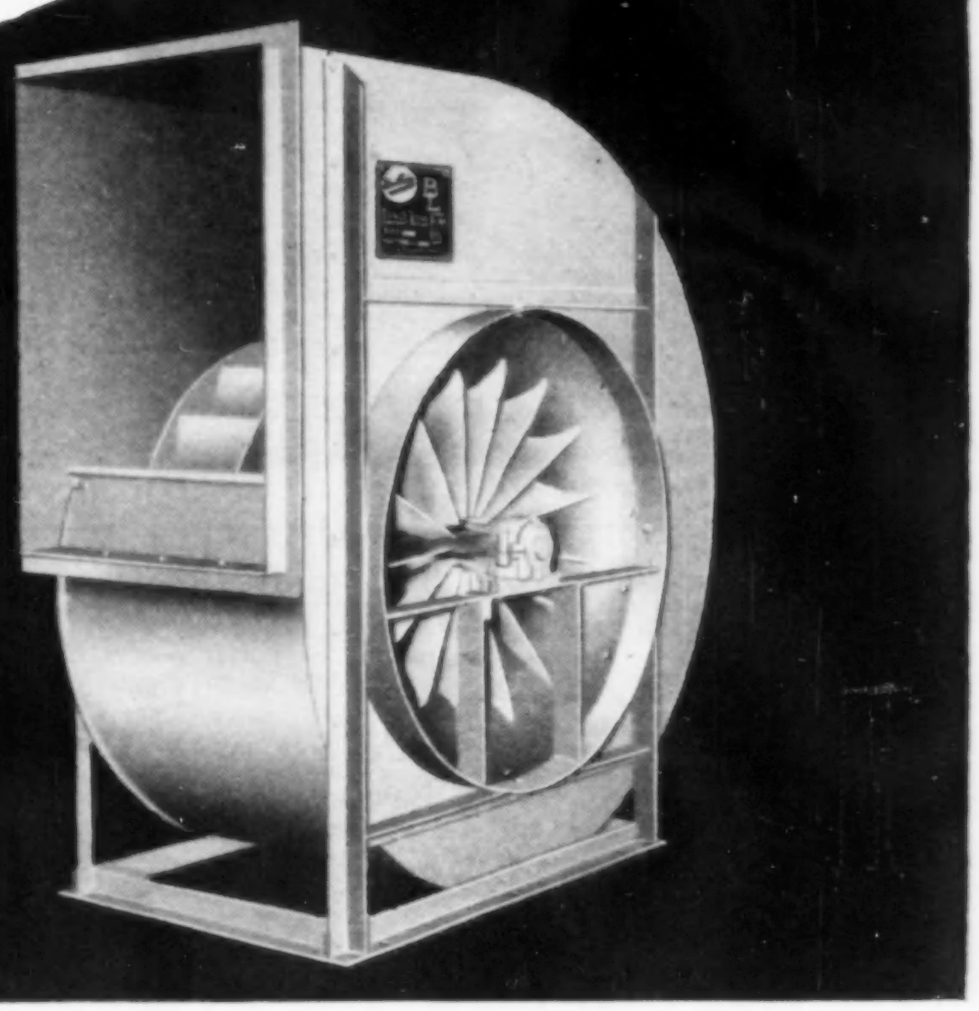
R. E. Johnson has been elected a vice president of Faribault Woolen Mill Co., Faribault, Minn.

Archie Kaplan has been named a vice president of Martha Mills, Inc., Asheboro, N. C.

Albert Kazimer has been

MINIMUM MAINTENANCE, LONG LIFE ASSURED BY THESE HEAVY-DUTY "BUFFALO" FANS

"Buffalo" Type "BLH" Fan
For Classes III & IV Service



"Buffalo" Type "BL" Fan
For Classes I & II Service

The high performance characteristics of these two outstanding "Buffalo" Fans has resulted in their widespread use in the field of industrial air handling. In addition to offering peak-efficiency operation in their respective classes, both the "BL" and the "BLH" bring you a bonus economy factor of *maintenance reduced to an absolute minimum* throughout a long, productive life. This minimum maintenance factor is directly due to unusually rugged "Buffalo" construction features such as:

HOUSINGS — The heavy gauge sides and scroll are of all-welded construction. Heavy structural steel bracing provides housing stiffness and rigid bearing support. Flanged inlets and outlets give added support.

SHAFTS — Hot-rolled or forged shafts are ground to close tolerances for perfect wheel and bearing fit.

WHEELS — Sturdy backward-curved blades are welded to the die-formed shroud and welded or riveted to the solid backplate. Heavy hubs assure permanent shaft alignment. For higher tip speeds, reinforcing rings provide necessary wheel rigidity.

BEARINGS — Self-aligning anti-friction bearings are designed for continuous operation at maximum tip speed. Horizontally split, ring-oiled, self-aligning, babbitted sleeve bearings are also available.

For full details, contact your "Buffalo" representative, or write for Bulletins F-102 and F-200.

Minimum maintenance is assured by the famous "Q" Factor — the built-in QUALITY that provides trouble-free satisfaction and long life in every "Buffalo" product.

"Buffalo"

BUFFALO FORGE COMPANY

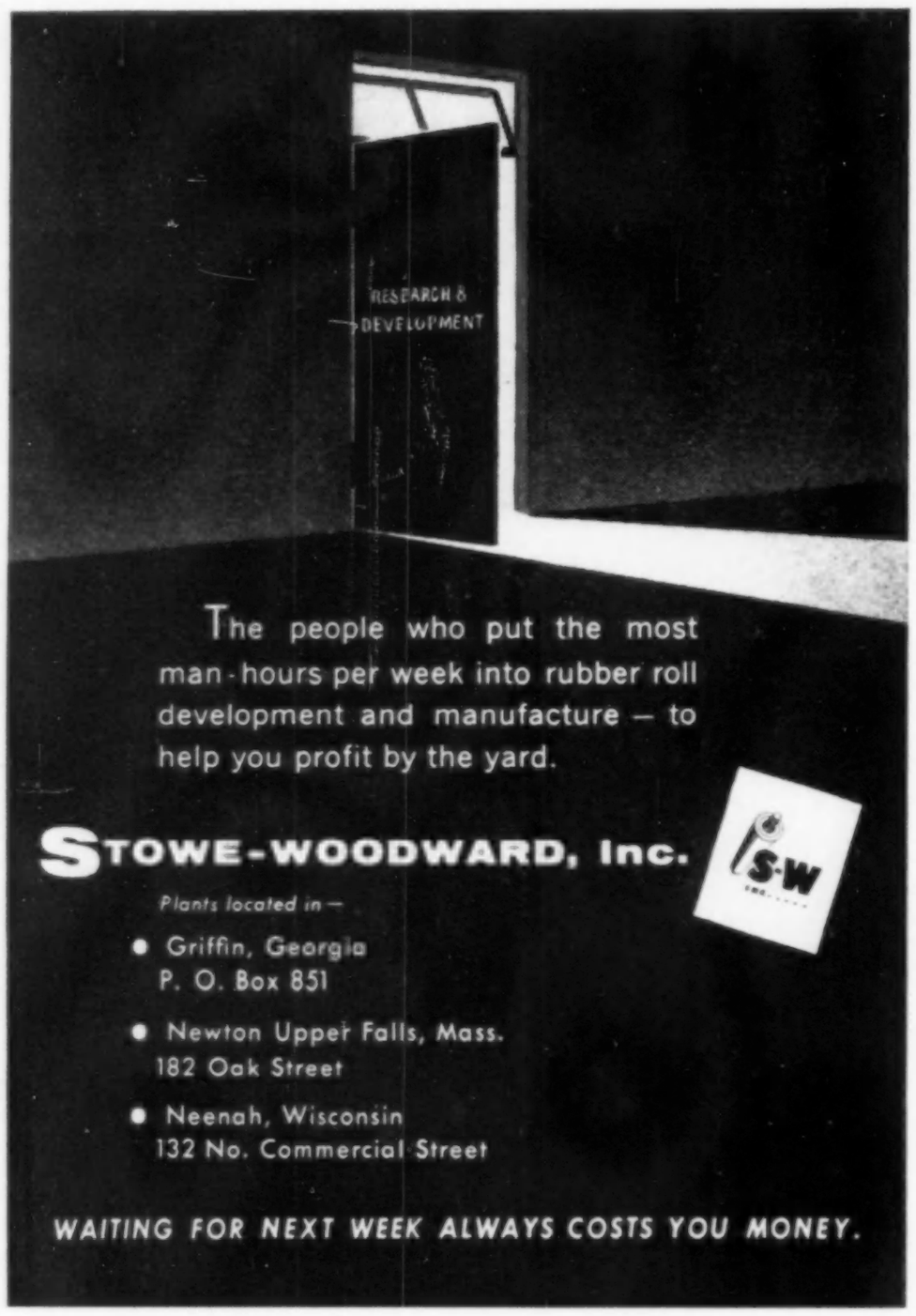
184 Mortimer Street • Buffalo, N. Y.

BUFFALO PUMPS DIVISION, BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

For more data, write this page number on Reader-Service card. →



The people who put the most man-hours per week into rubber roll development and manufacture — to help you profit by the yard.

STOWE-WOODWARD, Inc.

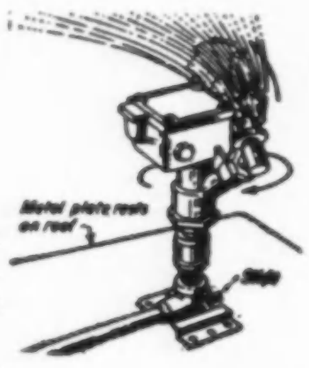
Plants located in —

- Griffin, Georgia
  P. O. Box 851
- Newton Upper Falls, Mass.
  182 Oak Street
- Neenah, Wisconsin
  132 No. Commercial Street

WAITING FOR NEXT WEEK ALWAYS COSTS YOU MONEY.

COOL any building from the ROOF

effectively, efficiently, economically



Everyone knows how the sun, beating down on the roof of a building, descends into the interior. Even with insulation, this imposes a big load on air conditioning.

Roof cooling is the answer. It can be used on any roof to keep the building cooler and save air conditioning costs. Best equipment for the job is Ruppright's Rotary Roof Cooler. Easily installed within a few hours by your maintenance department, it produces a thin film of water on the roof. This film evaporates but is continuously renewed by the slowly-rotating cooler making the roof cooler than the air.

RUPPRIGHT'S ROTARY ROOF COOLER

Box 43555-TW, Los Angeles 43, Cal.

WRITE FOR FREE FOLDERS

Industrial Engineers

MODERNIZATION PROGRAMS
PLANT LAYOUTS
MANAGEMENT PROBLEMS
WORK LOAD STUDIES
COST REDUCTION REPORTS
COST SYSTEMS
SPECIAL REPORTS

Specializing in Textiles Since 1914

RALPH E. LOPER CO.

GREENVILLE, S. C. Dial CEdar 2-3868

FALL RIVER, MASS. Dial OSborne 6-8261

NEWS ABOUT MEN — Continued

named overseer of picking, and blending, at Worumbo Mfg. Co., Lisbon Falls, Me.

S. B. Kitchings has been appointed assistant superintendent at West Georgia Mills, Whitesburg, Ga.

John Land has been named vice president of Textiles, Inc., Gastonia, N. C.

R. Larsh has resigned as plant manager at St. Marys Woolen Mfg. Co., St. Marys, Ohio.

Raymond Lenger has been named head of a newly established production-control department at Triangle Hosiery Co., High Point, N. C.

James Lyons has resigned as overseer of finishing at Worumbo Mfg. Co., Lisbon, Me.

George H. McLoof has been named vice president of Mooresville Mills, a member of Burlington Industries, Inc., Mooresville, N. C.

William H. Michael has been elected vice president in charge of manufacturing at Delaware Mills, New Castle, Del.

Harold G. Miller has been elected chairman of the board and president of Vanity Fair Mills, Inc., Monroeville, Ala.

Charles Powers has been appointed vice president of Cabin Crafts, Inc., Dalton, Ga., and general manager of the company's New York office.

Thomas Robson has been named chairman of the board of Wayne Knitting Mills, Fort Wayne, Ind.

Textile World OBITUARY

Henry Anner, 67, founder of Textile Specialties, Greenville, S. C.

Ernest Wilbur Atkins, 45, Adams-Millis Corp., High Point, N. C.

William F. Burke, 62, former superintendent of Duplan Silk Corp., Kingston, Pa.

Charles H. Haynes, chairman of the board of Cliffside Mills, Cliffside, N. C.

James L. Kay, 100, retired superintendent of Robinson Woolen Mill, Oxford, Mass.

Lindsay Brown Kester, 61, vice president of Carolina Narrow Fabrics Co., Winston-Salem, N. C.

Henry A. Luther, 65, retired foreman of American Silk Spinning Co., Providence, R. I.

Stanley Morton, 78, retired treasurer of Lanett Bleachery & Dye Works, Lanett, Ala.

John M. Mullen, 63, editor and publisher of *Southern Textile News*, Charlotte, N .C.

Arlie B. Owen, retired secretary and treasurer of Puritan Finishing Mills, Burlington, N. C.

Santo Prenite, 49, manager, Keystone Mills, Annville, Pa.

T. E. Ramsdell, 80, retired president of the former Monument Mills, Great Barrington, Mass.

W. E. Remmington, 86, former department manager of the former American Woolen Co., New York, N. Y.

Abbot Stevens, 69, retired vice president and director of J. P. Stevens & Co., New York, N. Y.

Richard Stiles, 68, treasurer of Fitchburg Duck Mill, Fitchburg, Mass.

Dr. William H. Stratford, founder and chairman of the board of Stratford Hosiery Corp., Burlington, N. C.

Robert White, 76, owner of Superior Woolen Mills, Frankfort, Ky.

Joseph H. Zens, founder of the former Milwaukee Hosiery Co., Milwaukee, Wis.

EVERY BUSINESSMAN KNOWS...

that the smallest unnecessary motion, if multiplied, can waste time and money.

Yet every year, we are all losing dollars and man hours that could be saved by the simplest act.

Postal zone numbers, included in every address – yours, ours, everybody's – would speed the mails immeasurably.

The Post Office has created postal delivery zones in 106 cities. No address in these cities is actually complete without the zone number.

McGraw-Hill has pledged full cooperation with the Post Office in achieving the most economical and efficient delivery of our publications to you.

But we also need your cooperation

WHEN SENDING US A CHANGE OF ADDRESS . . .
WHEN SUBSCRIBING . . .
WHEN RENEWING YOUR SUBSCRIPTION . . .
ANY TIME YOU WRITE . . .

Please include your zone number
It will speed your letter
and our reply.

McGraw-Hill Publishing Company

330 West 42nd Street

New York 36, New York

Is your distribution full of holes?

● Is your national distribution really complete? What about those retail outlets that are "too small" for your salesmen – the ones they "just don't have time for?" No single one is very important. But there are thousands of these stores. And the only reason they exist is they have customers –lots of customers who are buying from them all the time. Those customers could be buying your merchandise, if it were only there! The NATIONAL WHOLESALE DRYGOODS ASSOCIATION can show you how to reach those thousands of customers missing from your national distribution picture. Local wholesalers will use their sales force and local market knowledge to sell for you. They can put your goods into all these outlets and save you money on credit, storage, billing and clerical help at the same time.

Find out how to reach these customers now. The experienced staff at NWDGA will show you how to cover your total market at a minimum cost. They will help you plan a detailed marketing program designed to sell every possible customer for your merchandise. Write or call the NWDGA for detailed information.

NATIONAL WHOLESALE DRYGOODS ASSOCIATION

C. BERTRAM PLANTE, JR.
Director of Sales
40 Worth Street
New York, New York
BArclay 7-0790

SERVING THE INDEPENDENT FIELD OF DISTRIBUTION

THE CITY THAT DIDN'T EXIST A MONTH AGO

Every 30 days the U. S. adds as many new Americans as live in Norfolk, Va.—creating brand-new wants and needs which must be satisfied.

What does this mean to you? It means greater opportunities than ever before—in all fields. Home construction is expected to double by 1975. Power companies plan to increase output 250% in the next 20 years to provide the power for scores of new labor-saving devices. Clothing suppliers predict a one-third increase in 7 years.

With 11,000 new citizen-consumers born every day, there's a new wave of opportunity coming.

7 BIG REASONS FOR CONFIDENCE IN AMERICA'S FUTURE

1. **More people** . . . Four million babies yearly. U. S. population has *doubled* in last 50 years! And our prosperity curve has always followed our population curve.
2. **More jobs** . . . Though employment in some areas has fallen off, there are *15 million* more jobs than in 1939—and there will be *22 million more* in 1975 than today.
3. **More income** . . . Family income after taxes is at an all-time high of $5300—is expected to pass $7000 by 1975.
4. **More production** . . . U. S. production *doubles* every 20 years. We will require millions more people to make, sell and distribute our products.
5. **More savings** . . . Individual savings are at highest level ever—*$340 billion*—a record amount available for spending.
6. **More research** . . . *$10 billion* spent each year will pay off in more jobs, better living, whole new industries.
7. **More needs** . . . In the next few years we will need *$500 billion* worth of schools, highways, homes, durable equipment. Meeting these needs will create new opportunities for everyone.

Add them up and you have the makings of another big upswing. Wise planners, builders and buyers will act *now* to get ready for it.

FREE! Send for this new 24-page illustrated booklet, "Your Great Future in a Growing America." Every American should know these facts. Drop a card today to: ADVERTISING COUNCIL, Box 10, Midtown Station, New York 18, N. Y.

(This space contributed as a public service by this magazine.)

LOCKWOOD GREENE PROJECTS IN...

KNIT GOODS

Lockwood Greene has completed over 300 engagements in the Knit Goods field and has had over 4,000 engagements in the entire textile field.

Union Underwear Company,
(Taylor Mfg. Co.),
Campbellsville, Kentucky

This new plant is the last word in production efficiency from receipt of yarn at rear end of lower floor thru knitting and bleaching to upper floor for cutting, sewing, pressing, boxing and shipping at upper floor platform shown

CONTINUOUS MANAGEMENT SERVICES FROM SITE SELECTION TO PLANT COMPLETION

LOCKWOOD GREENE ENGINEERS • ARCHITECTS

BOSTON 16, MASS. 316 Stuart Street
NEW YORK 17, N.Y. 41 East 42nd Street
SPARTANBURG, S.C. Montgomery Building

OVER A CENTURY OF INDUSTRIAL PLANT DESIGN EXPERIENCE • BROCHURE ON REQUEST

IF THIS IS YOUR PROBLEM

If you need effective, highly readable, smartly illustrated company literature (booklets, pamphlets, manuals) to display your products, inform the public of your operations, attract key personnel to your plant, train employees, and perform any of the other communicative functions that are vital to your business . . .

THIS IS YOUR ANSWER

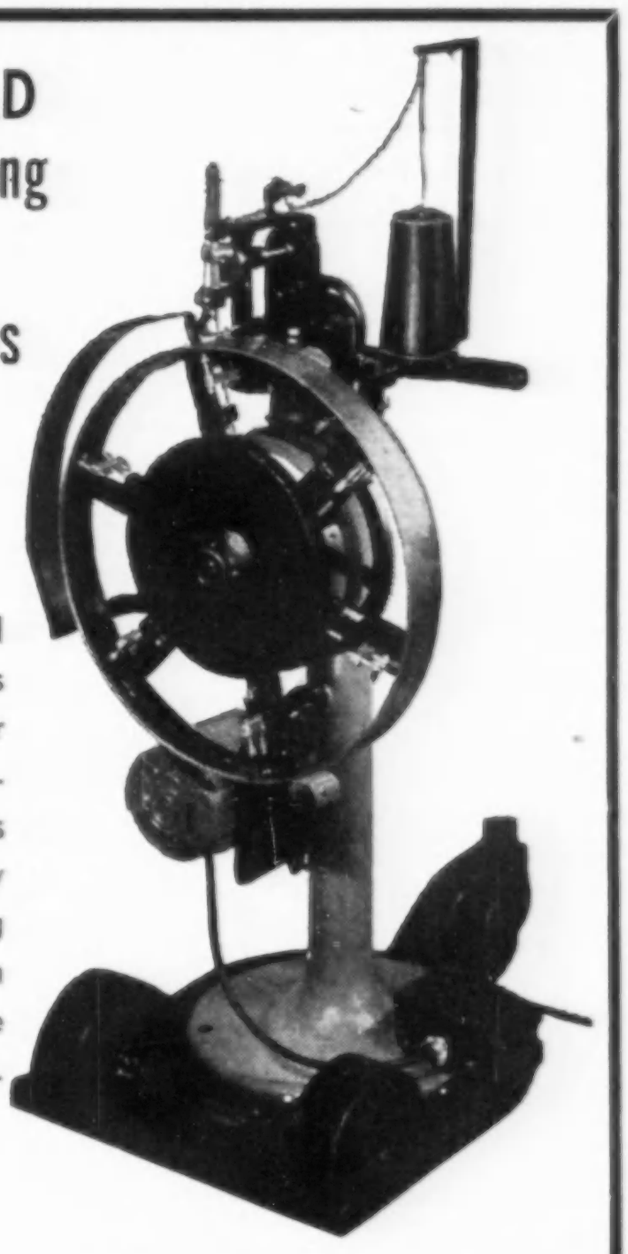
The McGraw-Hill TECHNICAL WRITING SERVICE has a staff of more than 150 highly-trained writers, editors, and illustration specialists whose job it is to create technical and general literature for industry. We write, illustrate, design, and print Equipment Manuals, Product Bulletins, Handbooks, Company Histories, Annual Reports, and other specialized material. Save money and time. Let our staff be your staff for Technical and Business publications.

This service is available through ad agencies.

Write • Phone

TECHNICAL WRITING SERVICE
McGraw-Hill Book Co., Inc.
330 W. 42nd St., N. Y. 36, N. Y.
LOngacre 4-3000

MODEL 31 AD
Piece-end Sewing with SAFE Retractable Pins



20" dia. cloth wheel with 6 pairs of pins retracted by cam for automatic cloth stripping. Retracted pins are safe. Heavy duty gear type sewing head. Single chain stitch. Wide range of stitch adjustments. Motor drive.

DINSMORE MANUFACTURING CO.

Box 267 **Salem, Mass.**

In Liquidation . . . Modern Machinery Now Is The Time To Buy

20—Whitin F2 Spinning, 4" ga. Long Draft, 240 spdls. 1947
1—Abbott Paper Cone Winder #65, 130 spdls.—1954
4—Abbott Quill Winders, 100 spdls. pinboard—1953
68—C. & K. C4 Looms, 78", 1949
18—C. & K. Convert. C4 Looms, 78", 1949
42—C. & K. Wool W3 Looms, 82", 1946-49
1—V. V. Hyd. 80 Ton Calender, 3 Rolls, 65", 1948
1—Perkins Schreiner Calender, 100 ton, 66"—1955
1—Proctor & Schwartz Gas Cure Loop Dryer, 25' long—1952
48—Morrison Hi-Pressure Stainless Dry Cans, 110", 50 lbs. pressure, 1954
36—Morrison Hi-Pressure Stainless Dry Cans, 72", 35 lbs. pressure, 1950
6—V. V. Duplex Stainless Dye Boxes 8' and 12'
14—Blickman Stainless Dye Boxes 6' and 12'
2—Proctor & Schwartz Finishing Ranges, W. & J. 100' x 62" Tenter Frame, Hydr. Padder—1953, 1 gas housing, 1 steam housing
1—V. V. Finishing Range, 100' x 64", with Hydr. Padder—1951
1—K. & G. Silk Calender, 3 rolls, 60"
1—R. B. & F. Print Machine, 48", 5 color, Can Dryers
1—R. B. & F. Print Machine, 50", 10 color, Tower Dryers
1—R. B. & F. Print Machine, 52", 12 color, Tower Dryers
1—R. B. & F. Print Machine, 54", 3 color, Tower Dryers
3—Mulhouse Roller Print Machines, 63", 10 color

Republic
TEXTILE EQUIPMENT COMPANY
40 Worth Street, New York 13, N Y • COrtlandt 7-1591
• APPRAISALS • PURCHASE AND SALE TEXTILE MACHINERY • LIQUIDATION OF MILL PROPERTIES •

2 FOSTER Mod. 102
100 SF., 7" Trav. 5/8" x 1 5/8" Tubes.

1—S. S. PACKAGE DYE MACHINE 2—CARRIERS

1—SIPP MODEL GK REDRAW—1955

1 COCKER REBEAMER
1—S.S. 100 LB. ROTARY

500 4¾" 10-B RINGS

SCHWEITER WINDERS
2—12 SPINDLE—3 RING
1—15 SPINDLE—THIN LIP

24—U. S.—FACE DRIVE UPTWISTERS

1—COBBLE BROS. 81" TUFTING MACHINE

10—DRAPER 64" LOOMS—1950

4—U. S. 1 LB. DOUBLERS

40—S-6 LOOMS, 72" & 56"

1—SACO CARD

1—ATWOOD 2 LB. 10B

250 UNIVERSAL CONERS #50

4 U. S. HI-SPEED SPINDLESS SPOOLERS

4—U. S. Vertical Spoolers

SMITH DRUM SKEIN CASCADE DYERS
2—20 ARM 2—3 ARM
3—12 ARM 2—7 ARM

2—84" F.N.F. Tricot
1—10 x 5 Roving Frame

BOBBINS—SPOOLS—QUILLS—*All Sizes & Types*

PENNSYLVANIA SPOOL & EQUIPMENT CO.

425 LEHIGH ST. ALLENTOWN PA. Phone 3-7545

All Types of Used Machines for Knit Underwear Mills

SCOTT & WILLIAMS and WILDMAN RIBBERS 8 to 16 cut, Sizes to 24"
TOMPKINS SPRING NEEDLE TABLES, All sizes and gauges
WILDMAN SPRING NEEDLE FBSS
WILLCOX & GIBBS FLATLOCKS, MERROWS, SINGER & METROPOLITAN SEWING MACHINES
***Also Various types of* SPECIAL MACHINES, CUTTING—CALENDERING—PREESSES, Etc.**

Send us your Inquiries.

MOHAWK VALLEY KTG. MACH. CO.
Dwyer Ave. at Pixley St. Utica 2, N. Y. Phone 4-8109

POSITIONS WANTED

Supt.—Ass. Manager—Manager—Sales Canadian Citizen—Textile graduate—20 years experience in weaving and preparation of cotton, worsted or synthetics: Quality and Production Control: Cost analyzes—Production Methods and Standards—Planning—Product development and Sales Organizations. Now employed as ass. manager and wishes to change for responsible position: Hard worker and willing to travel. PW-8244, Textile World.

POSITIONS WANTED

Textile Engineer, Experienced in knit goods production, development and research, and plant engineering. Seeks responsible position that calls for diversification of ability. Resume on request. PW-8281, Textile World.

Throwster. Supt. or manager. Twenty-five years experience. Throwing of all fibers for all trades knowledge of modern methods, costs, and incentives. Excellent references, willing to relocate. PW-8308, Textile World.

FLOOR TREATMENT LINE FOR TEXTILE FIELD

Manufacturer of nationally distributed floor treatment and maintenance products to open sales division for textile industry. 50-year old company has excellent reputation. Specialized seals, finishes and cleaners, daily maintenance products and equipment developed especially to meet needs of Textile Mills.

Direct selling pays high commission. Territories now available to individuals or sales companies with established contacts in textile market.

Complete line offers unlimited and repeating sales potential.

Address Hillyard Chemical Company, Wm. A. Schmaltz, Sales Mgr. Textile Sales Division, St. Joseph, Missouri, or visit Hillyard Booth No. 305-306, Southern Textile Exposition, Greenville, South Carolina, October 6-10, 1958.

WANTED

Progressive textile specialty house interested in representing lines directly connected with weaving. Excellent coverage in N. C., S. C., Ga., Ala., Tenn., & Miss. Office located in heart of textile south. Reply to Box RA-8000 Textile World Classified Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

Available for Position
NARROW FABRICS
MANAGEMENT ★ MANUFACTURING
over 20 years' experience
PW-8255, Textile World
Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

ADDRESS BOX NO. REPLIES TO: Box No. Classified Adv. Div. of this publication. Send to office nearest you.
NEW YORK 36: P. O. BOX 12
CHICAGO 11: 520 N. Michigan Ave.
SAN FRANCISCO 4: 68 Post St.

SELLING OPPORTUNITY OFFERED

Active Selling Agents with experience desired to handle Hardwood Picker Sticks in New England, Pa., Southern States on commission. Write with resume to RW-8097, Textile World.

POSITIONS WANTED

Weave room shift overseer or second hand. Any model C&K or Draper. Natural yarns or synthetic. Standard weaves or novelties. 20 years in loomfixing and supervisory positions. Currently employed. PW-7780, Textile World.

Textile engineer, 27 years industrial experience, age 50, good health, graduated as chemical engineer from French university, and textile engineer of French institute. Vast experience in weaving and dyeing. Wide experience in spinning. Weaving: supervision of looms, straight looms, mechanical, jacquard, pick-pick, etc.; scientific preparation and sizing; new ideas in cloths. Dyeing: Loose, Yarn, slubbing, package, piece, cloth; all standard fibres and new fibres; all dyes and processes; mercerizing, water-proofing, sanforizing, laboratory tests, etc. At present in Bolivia. Was organizer of all the factories which he directed. Speaks French and Spanish, with good knowledge of English. Seeks position as a technical director in a mill preferably in the South of the U.S.A. Write to Raymond Palfray, Casilla No. 2386, La Paz, Bolivia, South America.

Knitter-Machinist-Technician available. Highly trained and experienced in building, developing and setting up textile machinery. Willing to relocate. PW-8280, Textile World.

Textile engineer with 25 years in fabric and factory development, production planning, supervising, technical management, incl. weaving, finishing of cotton, synthetics, wool, linen products, seeks resp. pos. PW-8272, Textile World.

• FOR SALE •

MACHINERY and EQUIPMENT

OF THE

HOOSAC MILLS CORPORATION
New Bedford Mill Division, New Bedford, Mass.

DANA WARP MILLS, INC.
Westbrook, Maine

HOOSAC MILLS CORPORATION

New Bedford Mill Division — New Bedford, Mass.

OPENING AND PICKING

7—Saco-Lowell Model #7 Blending Feeders
2—Saco-Lowell Lattice Conveyors
1—Eriez Double Magnetic Separator
2—Saco-Lowell Model #7 2-bag Air Filters
2—Saco-Lowell 3-beater, 40" Single Process Pickers with blending reserve sections and air filters, pneumatic lap controls
2—Saco-Lowell Vertical Openers
1—Abington Filter Bag Cleaner

CARDING, DRAWING AND COMBING

56—Saco-Pettee 40" Revolving Flat Cards
Abington Strippers—110's—120's clothing
All R. H., Age 1910
2—60-HP Allen Billmyre Vacuum Pumps with Abington Receiving Tanks
2—Saco-Lowell 9" Lap Winders, Age 1951
52—Deliveries Saco-Lowell Control Draft Drawing
66—Deliveries Saco-Pettee 4-roll Conventional Drawing
4—Saco-Lowell Model #50 12-head Combers, Age 1951

ROVING

8—Whitin Woonsocket Model 9 x 4½ x 132-spindle SUPERDRAFT Slubbers
15—Saco-Lowell and Saco-Pettee 9 x 4½ x 120-spindle Slubbers with Whitin Superdraft added 1951

SPINNING AND TWISTING

59—Whitin F-2 Superdraft Tape Drive Ring Spinning Frames
300-spindles each, Age 1951
3¼" gauge, 1⅞" ring, ball bearing spindles,
Parks-Cramer traveling cleaners
78—Saco-Lowell Tape Drive Ring Spinning Frames
256-spindles each, 2¾" gauge, 1¾" ring
Whitin Type T-3 Superdraft installed 1954
Parks-Cramer Traveling Cleaners
5—Whitin Dry Tape Drive Ring Twisters
Model B, Age 1921, 4" gauge, 3" ring
3—176-spindles 2—168-spindles, motor drives

WINDING

5—Universal #44 Roto-Coners
4 Machines 120-spindles each for Franklin Springs
1 Machine 100-spindles for 9° 36' paper cones
5—Abbott Model #65 Wood Cone Winders, Age 1951
Sizes from 125-spindles to 214-spindles each
6—Abbott Automatic Filling Winders, Age 1952,
Complete with frequency converters
Machines of 50, 80, 100 and 130-spindles each

WARPING AND SLASHING

5—Entwistle High Speed Warpers and Creels
5—Saco-Lowell 7' and 5' cylinder Slashers with size kettles, G. E. drives, Brown Moist-o-graphs, Taylor controls, etc.
1—Gaulin Homogenizer
2-stage, 300-gal. per hr., Age 1949

BARBER-COLMAN EQUIPMENT

1—Barber-Colman Drawing-in Machine, Model 48-FSH for 18-harness work, age 1954, Serial #89
1—Barber-Colman Drawing-in Machine, Model CSH
Size 2, Machine #1, 6-harness work, 4-bank drop wires
Barber-Colman Pattern Puncher Press and Heddle Counter
3—Barber-Colman Tying-in Machines, 1—Model LC, 2—Model K
4,000,000—12" Drawtex Heddles
5,000—Drawtex Harness Frames 45"

LOOMS

734—Draper 40" Model X-2 Motor Driven Cam Looms
47" Reed Space, 550 volt motors
200—Looms, Age 1942
184—Looms, Age 1946
180—Looms, Age 1948
170—Looms, Age 1949
170—Draper 40" Model K Motor Driven Looms
85 Looms have 25-harness dobbies
85 Looms have 5-harness cams

MISCELLANEOUS

800—Amco #6 Atomizer Heads
35—Amco Type F Humidity Controls
50—American Moistening Evaporative Cooling Units
Terrell and Termaco Bobbin Strippers
Roving Cans, Bobbins, Steel-clad Fibre Box Trucks, Doffing Boxes, etc.

DANA WARP MILLS, INC., Westbrook, Maine

OPENING AND PICKING

3—Saco-Lowell #7 2-bag Air Filters, Age 1952
1—Saco-Lowell #7 4-bag Air Filter Terminal, Age 1951
2—Saco-Lowell Cotton Picker Distributors
1 for 3 Pickers and 1 for 2 Pickers, Age 1948
1—Kitson 2-beater Picker
1—Saco-Lowell Single Beater, Single Process Picker
1—Kitson 40" Finisher Picker

CARDING

10—Saco-Lowell 40" Roller Top Cards, Age 1946
29—Whitin 40" Roller Top Cards, Age 1922-1928
With Saco-Lowell roller top conversion 1947
123—Whitin 40" Revolving Flat Top Cards
27" doffers, 12" coilers, Abington strippers
1—U. S. Hoffman Centrifugal Vacuum Pump for Stripping System with 50-HP motor. Also Abington tanks

DRAWING AND COMBING

40—Deliveries Saco-Lowell Drawing, Age 1947-1948
4-roll conventional drawing on 5-roll chassis with 1⅜" B.F.R.
16—Deliveries Saco-Lowell, Model R-D Drawing
Same specifications as above
16—Deliveries of Saco-Lowell 5-roll Control Draft Drawing
1¼" B.F.R.
2—Saco-Lowell Lap Winders for 8¾" laps
6—Saco-Lowell 12-head Combers, Age 1940, 10½" laps
1—Saco-Lowell Lap Winder, Age 1940, for 10½" laps

ROVING

8—Saco-Lowell Model FS-2 8 x 4 x 6 x 144-spindle Slubbers
4—Saco-Lowell Model FS-1 8 x 4 x 6 x 144-spindle Slubbers
2—Saco-Lowell Model J-3 8 x 4 x 6 x 144-spindle Slubbers

SPINNING AND TWISTING

22—Saco-Lowell Tape Drive Ring Spinning Frames
276 spindles each with Z-2 long draft
3¾" gauge, 2½" rings
6 Frames—Age 1951 16 Frames—Age 1947
New Era spindles, Parks-Cramer Traveling Cleaners
Bijur lubrication, individual motor drives
24—Saco-Lowell Tape Drive Ring Spinning Frames
276-spindles each
3½" gauge, 2⅛" rings
8 Frames—Age 1941 with Z-2 long draft installed 1949
16 Frames—Age 1940 with Roth long draft and 1" B.F.R.
Parks-Cramer Traveling Cleaners, motor drives
12—Saco-Lowell Tape Drive Ring Spinning Frames
192 spindles each
3" gauge, 2" ring, Roth long draft
Motor drive, 10" cylinder, Age 1920
6—Saco-Lowell Tape Drive Ring Spinning Frames
188 spindles each
3" gauge, 2" ring
SACO-LOWELL SLUB YARN ATTACHMENTS, Motor drives
24—Fales & Jenks Tape Drive Novelty Ring Twisters
160 spindles each, 4" gauge, 3" ring
1—Fales & Jenks Sample Novelty Twister
68 spindles, 3½" gauge, 2½" rings

WINDING

1—Foster Model #102 Wood Cone Winder of 90 spindles
7" traverse on 7° 22½' wood cone, Age 1950
2—Abbott Model #65 Wood Cone Winders of 108 spindles and 76 spindles
2—Abbott Model #64 Wood Cone Winders of 124 spindles

SLASHING

3—Uxbridge Gentle Air Slashers
Models A and B, Age 1950-1953
Headways for beams 32" diameter and up to 120" between heads
3—Lowell or Saco-Lowell 7' and 5' 2-cylinder Slashers with wide headways
4—42 x 42 Cast Iron Size Kettles and Size Pump

DYEING

3—Obermeier Package Dyeing Machines
1—400-lb. 2—300-lb.
2—Delahunty Beam Pressure Dyeing Machines
1500-lbs. each
1—Obermeier Raw Stock Cotton Dyeing Unit
Open type, 250-lb. capacity

Offered Exclusively by

GEORGE D. FLYNN, JR.

31 Canal Street — **Providence, R. I.**

Agents:
HUNTER C. MOTLEY
F. C. PEARCE DRUMMOND

Tel. Providence, R. I. GAspee 1-9423
Tel. Westbrook, Maine ULster 4-2544
Tel. New Bedford, Mass. LYman 7-9471

FOR SALE
FINISHING EQUIPMENT IN STOCK

1—DYE BECK, open type, 36" wide, 40" deep x 70", oval Reel.
1—VERTICAL BRUSH, C&M., 60", 6 B.B. Bristle Brushes, Motorized.
1—BUTTON BREAKER, Van Vlaan., 50", 19 Rolls, Vertically adjustable.
1—COATING HEAD, J. Waldron, 1952, 85 Durometer Neoprene, 66" x 10" dia.
1—DESPECKING Machine, P&W., w/Folder, Scray, Exhaust Fan, 10 Hp. M.
1—CAN DRYER, Text. Fin. Co., Horiz., 18 Tinned Copper Cans, 49½" Face.
1—EXTRACTOR, 40", Copper Basket, Vertical Underneath V-Belt Drive.
1—NAPPER ROLL GRINDER, D&F., Wheel 4½" x 12¼ dia., 104" long.
1—CLOTH GUIDER, 66", Air Operated, Adj. Stand, Chrome/Rubber Rolls.
1—LONDONIZING Mach., P&W., 80", w/ S.S. Steam Box, Rollup Device.
3—MEASURING, DOUB., WIND. Machines, P&W., 66", 76", Motorized.
2—MEASURING, ROLLING Mach., P&W., AWC models, 66", 80", Open Width.
2—SINGLE ACTING NAPPERS, D&F., 72", 14 Gear Driven Rolls.
1—SINGLE ACTING NAPPER, Gessner, 80", 18 V-Belt Driven Rolls.
1—DOUBLE ACTING NAPPER, Gessner, 72", 18 Gear Driven Rolls.
2—DOUBLE ACTING NAPPERS, D&F., 80", 24 Belt Driven Rolls.
2—DOUBLE ACTING NAPPERS, Woonsocket, 84", 36 Belt Driven Rolls.
1—FELTING NAPPER, Woonsocket, 90", 22 Belt Driven Rolls.
1—KNITGOODS SHEAR, C&M., Single Blade, 66½", Folder Motorized.
1—SQUEEZE SET, Gessner, 72", 2 Rolls 13" dia., top rubber, bottom brass.
1—SQUEEZE SET, 50", Hinnekin, 2 Roll, top R. Rubber, Bottom S. Steel.
4—SEWING Machines, Merrow, Port., table, Rotary, #60ABB3, 60E, Motorized.
2—RAILWAY SEWING Mach., C&M., Portable, 50, 60" Goods, motorized.
1—TENTER FRAME, Over and Under, 60"x30', 3 Pipe Coil Heating Sections.
1—TENTER FRAME, V. Vlaan., Clip Type, 1948, 66"x40', Elec. Guiders.
1—TENTER FRAME, McCreary, S.S. Clip Inserts, 72"x50', Reeves, M.D.
1—CLOTH TESTER, Scott, Model J, 250-500# dial, Motor Drive.
1—TIGER, C&M., 66", Single Roll with leton, scrimp rolls, steamer.
1—TIGER, P&W., 90", 3 Section, w/Exhaust, Manifold, Motor Drive.
1—WASHER or CRABB, Birch, 7 Bowl, Open Width, S.S. Rolls, 7 Squeeze Sets.

McDOWELL ASSOCIATES INC.

General Offices 41-E 42 Street
New York City 17, N. Y.
Phone: Murray Hill 2-7417

Warehouse No 1 N. Front,
Dock & Water Sts., Hudson, N. Y.
Phone: Hudson 8-3211

We own and offer for sale

10B ATWOOD TWISTERS

4 Atwood 10B Twisters 1951 model 7" gauge, 4¾" rings, 8" travis, long base anti-friction spindles, 100 spindles each. Now available, running in South.

1 Universal Roto Coner 1951 Model 44 of 120 spindles, cast iron drums, 6" paper cones either 9° 36' or 3° 30' arbors.

6 Foster Winders, late model 102, some for paper cones, tubes and Barber-Colman cheese.

1 Barber-Colman C Type Spooler, 216 spindles, long pockets.

H. C. SKELTON, INC.
Textile Machinery
Tel. 1009—Union, South Carolina

FOR SALE—4 Cidega Type knitters in good condition. Individually motorized. 8 Design bars.

2—Machines 90" Needle Beds

2—Machines 116" Needle Beds—equipped with Machine mounted Creels-pattern links-take up rolls and beams.
Machines are suitable for the manufacture of Curtains, Drapes, Stoles and a variety of Novelty fabrics.
Manufacturer needs space for other equipment. Will sell at low price. Machines can be seen by appointment.

ACME SUMMIT MILLS, INC.
Closter, New Jersey. *Tel. Closter 5-1300*

BIALEK'S BEST BUYS

Van Vl. Palmer Tenter Frames With Nat. Housing, Quetsch. Padder
National Loop Dryer 110"
Van Vl. 60" Jiggs
Verduin Padder
S. S. Dye Boxes 2', 6', 12'
National Heat Set Unit
Alum. Section Beams
6—Draper 64" D Dobby Looms
20—Universal #50 Coners, 1953, With Emulsion Rollers, Pineapple

Draper "0", 80", 90", 100", 110" 936-Hook Single Index Jacquards Available for Above Looms
63—Spindles Whitin Auto. Quillers
1—Sipp 84" Hi-Speed Metal Warper With 840-End Magazine Creel
1—Cocker Beamer, Sipp 820-End, Magazine Creel
4—Sipp Cake Creels
160—Draper 46" x D Diehl Drive, 1951
50—C&K, C-5, Dobby, 4x1 Auto.

THEODORE BIALEK & CO.

6704 EMPIRE STATE BLDG.
NEW YORK 1, N. Y.
LONGACRE 3-4978-9

11-20TH AVENUE
PATERSON, N. J.
LAMBERT 3-5886-7

LIQUIDATION SALE

(13) SPERRY 30" x 30" Filter Presses, 7 chamber
(8) BAKER-PERKINS: 200 Gallon Sigma Blade Jacketed Mixers or Shredders.

PERRY EQUIPMENT CORP.
1430 N. 6th St. Phila. 22, Pa.
POplar 3-3505

MILLER MACHINERY CO.

66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8

Textile Machinery and Supplies

BOUGHT AND SOLD
Warpers • Winders & Quillers • Looms

Rodney Hunt Stainless Steel Range

composed of a series of 60" compartment Washers, Air actuated Squeeze Rolls, Drying cans, Tanks, driven by Century Electric Synchronous Package unit. Was used for Acetylation of Cotton, Practically new.

WM. E. HOOPER & SONS CO.
Parkdale Ave. and Druid Park Drive
Woodberry, Baltimore 11, Md.

1—17 Can Textile Copper Drying Cans complete with vertical stand. Size is 23" dia. and 54" length. $50.00 per can

NEW HAVEN BAG & BURLAP CO.
137 Ashmun Street New Haven, Conn.
UNiversity 5-8130 collect

Largest Offering Modern Machinery

for:

DYEING • FINISHING • PRINTING • BLEACHING

From a Single Machine to a Complete Plant

WRITE WIRE PHONE

SOUTHERN OFFICE
IPA SOUTHERN, INC.
610 S. Carolina Nat. Bk. Bldg.
Greenville, South Carolina
Tel: Cedar 2-3561

IPA

NORTHERN OFFICE
INDUSTRIAL PRODUCTS OF AMERICA
140 Market St., Paterson, N. J.
Tel. Sherwood 2-6614 Cable: Texindus

WANTED

DOUBLE ROLLER TWISTER

120 ends, sixty to a side,
4½" rings

W-8295, Textile World
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

BUY NOW • • BIG SAVINGS

6—U. S. TEXTILE FACE DRIVE TWISTER • • 1951–1952

160 SPINDLES EACH . . 8" GAUGE . . HEADLESS . . LIKE NEW CONDITION

9—U. S. TEXTILE REDRAW S-51 SPINDLELESS • • 60 SPINDLES EA.

4—KING SPOOLERS #50 MODEL • • LATE

1—MODEL 65 ABBOTT WINDER

4—FIDELITY REELERS • • 1953 SINGLE ARM • • 45" to 75" SKEINS

350—UNIVERSAL #50 CONERS ALL COMPLETE AND LATE

14—ATWOOD #100 TWISTERS 1951 • • HEADLESS • • 6½" SPACING

3—U. S. TEXTILE DOUBLERS 110 SPINDLES EA. • • 1948 6" GA. • • 4" RING • • 1 LB.

6—RIGGS & LUMBARD DYE BECKS • • ALL STAINLESS STEEL • • 8 FOOT

TOTALLY ENCLOSED • • 7' FRONT TO BACK • • 67" DEEP • • 1951 LIKE NEW

1—200 LB. SMITH DRUM ROTARYS RD-12 • • 6 POCKET • • MONEL

2—R & L STAINLESS DYE BECKS 3' & 4' • • OPEN • • 7' FRONT-BACK • • 60" D

1—FLETCHER 60" WHIRLWIND EXTRACTOR 1951 • • STAINLESS STEEL • • LIKE NEW

2—HUSSONG SKEIN DYERS • • 1951 ALL STAINLESS • • 600 LB. CAPACITY

8—PADDLE DYE MACHINES • • STAINLESS 15-25-100-200 LBS. • • S.D. & STRICKLAND

1—7 ARM S.D. SKEIN DYER S.S. • • CASCADE • • LIKE NEW

18—DRAPER XD LOOMS • • 50" • • 1948–1952

DIEHL DRIVES • • 20 HARNESS DOBY • • LIKE NEW CONDITION

1—USTER WARP KNOTTER • • 1951; 1—79" DRAW-IN FRAME • • LIKE NEW CONDITION

2—72" REINER DIRECT WARPERS • 1948
1—54¼" COCKER DIRECT WARPERS • 1948

1—TERRILL BOBBIN STRIPPER HOIST & COMPRESSOR • • MODEL 735 • • EXCELLENT

90—SPINDLES WHITIN-SCHWEITER AUTOMATIC QUILLERS • • LATE TYPE

NARROW FABRIC LOOMS BUILT TO YOUR SPECIFICATIONS

Wm. Rabinowitz & Sons

TEXTILE MACHINERY, BOBBINS & SUPPLIES

214 - 222 Hamilton Street Phone HEmlock 3-7497 3-7498 Allentown, Pa.

ONLY PARTIAL LISTING • • SUBJECT PRIOR SALE • • SELECTED STOCK OFFERINGS

COMPRESSORS-VACUUM PUMPS

For the Finest in Rebuilts

1902 AMERICAN 1958

100 CFM 150 psi 6x7 Ing.
137 CFM 100 psi 7x7 Ingersoll ES1
234 CFM 135 psi 9x9 Worth HB & Ing. ES1
283 CFM 35 psi 10x7 Ingersoll ES1
321 CFM 125 psi 10x11 Ing. ES1
437 CFM 40 psi 12x9 Ing. ES New Cylinder
465 CFM 100 psi 12x11 Penn Ing. ES1
505 CFM 125 psi 12x13 Worth HB (unused)
590 CFM 125 psi 13½—8x8 Penn DE2-3-60-220
686 CFM 100 psi 14x13 Ing. ES

628 CFM 100 psi 100 HP
(2) 14x13 Worth HB 100 HP 3-60-220
Starters—Aftercoolers—Receivers

782 CFM 110 psi 15½-9½x10 Ing. XRE

1008 CFM 100 psi 150 HP
16-10½x8½ Worth Y3-60-440

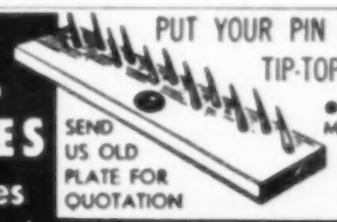
1016 CFM 55 psi 17x13 Ing. ES

1055 CFM 110 psi 175 HP
(3) 18-11x12 Ing XRE3-60-440

1184 CFM Vacuum 22x9 Ing.
1270 CFM 40 psi 19x13 Ing. ES-1
1410 CFM 35 psi 20x13 Worth HB
1717 CFM 20 psi 23x13 Ing ES

American Air Compressor Corp.
Dell & Tex Streets — North Bergen, N. J.

BRASS PIN-PLATES All Sizes



PUT YOUR PIN TENTERS IN TIP-TOP CONDITION

SEND US OLD PLATE FOR QUOTATION

• Pins in Stainless, Monel, Plain Steel.
All Diameters Any Length

SOUTHERN TEXTILE WORKS
P. O. BOX 406 ANDERSON, S. C.

The New Fletcher Works

THE FLETCHER WORKS, INC. • 2nd & Glenwood Ave., Philadelphia 40, Pennsylvania

NARROW FABRIC LOOMS • DUPLEX EXTRACTORS • CENTRIFUGALS • WINDERS
THROWING MACHINES

USED MACHINERY

FLETCHER WORKS - FACTORY GUARANTEE

Warper-Cocker Model SD-40

Spindle driven 54½" Beams 72"
Overall length 12" Barrell diameter
30" Head

1¼" Diameter Journals 5 H.P. G.E. 440V

RE-DRAW 20 Spindle FLETCHER

LOOMS NARROW FABRIC 16-8 ft. 6" High Speed

EXTRACTORS—48" (2) Hoffman
30" Fletcher
40" & 48" Fletcher Whirlwind

NEW EQUIPMENT—LOOMS—TWISTERS—EXTRACTORS—WINDERS

(IF YOU BUY NEW—MAKE IT FLETCHER)

YARN LABORATORY—COMPLETE EQUIPMENT

BEAMS—40-54" Like NEW

LOOM BOXES—FIBRE—NARROW FABRIC 80 NEVER USED

LIQUIDATION SALE

2—Merrow 60 D3B Sewing Machines with Motors & Tables, also Style 60 ABB.
2—70" V.V. Tubers—1955—$800 each.
3—70" V.V. Beamers, Heavy Duty 5 H.P. U.S. Vari-Drive, S.S. Rollers, S.S. Slide Tension Expander Device—1955. $800 ea.
6—60" Werner Dye Jiggs, stainless.
1—78" Hunter 15 ton Pneumatic Padder, 2 rubber rolls 78" x 18".
2—Brand New 66" Pneumatic Padders, 2 rubber rolls each, 15 ton & 5 ton.
1—64" Progressive Inspect. & Meas. Machine with reverse, like new—$500.
6—Link Belt P.I.V. Drive Units VM5, 4 to 1, direct driven 10 H.P. Motor 220/440/60.
1—Open Washer, 2 compartments, 2 sets of 66" rubber Squeezers 10" dia.—$1100.
1—64" Progressive Tuber, Hi-Speed—$600.
1—66" Pad Dyeing Machine, 2 rubber rolls 12" dia., Foxwell Guiders—$1500.
14—5' to 16' S.S. Dye Becks, tensionless.
1—60' V.V. Tenter Frame, S.S. Clips.
1—30" Hercules Extractor, S.S. Basket—$350.
1—Woonsocket Napper, 86" wide, 36 rolls, double acting, ball bearing rolls, clothing like new—$1500.
3—Sets of rubber Squeezers 18" x 18".
1—Card Cutter, Fine Index—$200.

A & M BLANK CO., INC.
301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

FOR SALE

Good Machinery—Low Prices

1—Barber Colman Knotter LC577
1—"Fletcher" 60" Extracter
1—3 Roll Print Machine 60"
Vertical—12 can dryer-copper cans 80" wide 30" dia.
1—VV-70"-High Speed Tuber
1 set—15 SS. Dry Cans 70"x23" dia.
Hinnekins 2 roll padder—new—66"—15 ton
Hinnekins tenter frame—new—S. S. clips 66"x60'
Hinnekins 2 roll embosser 50" new
Hinnekins moire calender 50" new
BB Johnson Joints

STAVE & KESSLER
106 Kearney Street
P. O. Box 1611 Paterson 16, N. J.

FOR SALE!

2—Morrison 3 Roll 50" padders
1—Plisse 2 Color 40" Print Range
2—W & J 80' x 60" Clip Tenters
2—Duplex 58" Shrinking Ranges
2—Four Color 46" Roller Printers
1—Model SG-82 Votator

JAMES E. FITZGERALD
10 Purchase St. Fall River, Mass.
Tel. OS 8-5616

We own and offer for sale—

P & W 3-BLADE DAVIDSON SHEAR WITH MOTOR, FOLDER, ETC.

12 C & K 92" W-3 Automatic Looms, 1945
1 Merrow 60D3B on portable table
8 Foot Power Sewing Machines
1 S.S. Portable Scray
1 Roy Napper Grinder 100"
1 P & W Semi Decater, 1947, Pump, etc.
150 Draper 40" XP Dobby Looms, 1948
1 Sargent Bagging Machine
1 Sargent 54" Picker Feed
2 Inspecting Machines 72" Reverse Motor
1 Selvage Winder, Motor Driven
3 Toledo Floor Scales, 1000 lb. Dial.
22 Waste End Blowers—110v
1 Warp Compressor 96" Beamer
40 C & K 82" W-3 Automatic Looms
2 Collins Fancy Twisters, 200 Spindles
3 D & F 2 Cyl Worsted Cards 60" x 54"
30 Spindles Whitin Schweiter Winders
3 Scutchers 72" and 78", complete
4 U. S. Redraws—1951
1 Economy 60" Baling Press, 1954

RUBBER ROLLS • BEAMS • MOTORS • HARNESS FRAMES

ADVANCED TEXTILE COMPANY
P. O. BOX 661 TEL. STUART 1-3633 PROV. R. I.

---

4 VV-70" Tensionless Dye Jiggs Model 720
1200 rebuilt tenter clips, W & J #5
1 set 15 Werner 70" SS cans BB & Johnson joints w/L4 Nash pump
1 VV-60" quetch
1 Kane 15 hp gas boiler
1 VV-70" tensionless tuber
2 Morrison 70" Dye Jiggs
1 Werner 64" SS Dye Jiggs
1 set of 21 141" SS cans BB Johnson joints, etc.
1 66" VV low-type palmer
1 VV-50" Decatizer Late Style

MAR-DAY TEXTILES
52-60 BERKSHIRE AVE., PATERSON 2, N. J.
MU 4-5132

TEXTILE AUXILIARIES INC.

Selling Out At Bargain Prices Balance of Modern Equipment At Paramount Prtg. & Fin. Co., Pawtucket, R. I.

1—50" Continuous White Drying Range consisting of 2-Roll Squeeze Mangle, 54" Scutcher, 42 Horizontal 50" S.S. Cans B.B. Syphoned, DC 230 Volt Motors.
1—8-Nip Open Soaper 50" wide, with 29—50" Copper Cans, Batcher and Ceiling Folder.
3—50" Butterworth S.S. Tommy Dodd Backfillers.
1—Perkins 100-ton combination Embosser & Schreiner Calander.
1—Butterworth 54" 3-Roll Friction Calander.
1—10 Fan National 96" wide Loop Dryer.

Numerous Other Items: Large Selection of Copper Printing Rolls.
For Detailed list Write or Telephone
146 West River St. **BERT FORTLOUIS** Dexter 1-9650

PROVIDENCE, R. I.

FOR SALE
McCreary Electronic Guiders for 144" Frame 66" Van Vlaanderen Pneumatic Padder

FS-8249, Textile World
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

FOR SALE

48—60" S-4 Automatic shuttle changing Looms
18—72" S-4 Automatic shuttle changing Looms
All of these Looms have 20 harness dobby 6 bank stop motion Spring jack and all other modern features
All Looms are in operation at present time and can be seen in running condition

DARLINGTON FABRICS CORPORATION
NEWTON, NEW JERSEY

FOR SALE—WINDERS

K.E.K.—PN Schweiter Precision Pineapple cone winders purchased new October 1956—now operating. 1 @ 8 spindle, 1 @ 12 spindle, 2 @ 24 spindle; stainless steel oil attachment. Excellent winders for Throwsters and Hosiery Trade.

ATKINSON SPINNING CO., INC.
Manchester, New Hampshire

AMERICA ALWAYS OUTPERFORMS ITS PROMISES

We grow so fast our goals are exceeded soon after they are set!

7 BIG REASONS FOR CONFIDENCE IN AMERICA'S FUTURE

1. More People—Four million babies yearly. U. S. population has *doubled* in last 50 years! And our prosperity curve has always followed our population curve.

2. More Jobs—Though employment in some areas has fallen off, there are 15 million more jobs than in 1939—and there will be *22 million more* in 1975 than today.

3. More Income—Family income after taxes is at an all-time high of $5300—is expected to pass $7000 by 1975.

4. More Production—U.S. production *doubles* every 20 years. We will require millions more people to make, sell and distribute our products.

5. More Savings—Individual savings are at highest level ever—*$340 billion*—a record amount available for spending.

6. More Research—*$10 billion* spent each year will pay off in more jobs, better living, whole new industries.

7. More Needs—In the next few years we will need more than *$500 billion* worth of schools, highways, homes, durable equipment. Meeting these needs will create new opportunities for everyone.

Add them up and you have the makings of another big upswing. Wise planners, builders and buyers will act *now* to get ready for it.

FREE! Send for this new 24-page illustrated booklet, "Your Great Future in a Growing America." Every American should know these facts. Drop a post card today to: THE ADVERTISING COUNCIL, Box 10, Midtown Station, New York 18, N. Y.

Your Great Future in a Growing America

For more data, write this page number on Reader-Service card. →

INDEX TO ADVERTISERS

An * indicates advertisers who have essential technical information on their products in the **IMPORTANT** 1958–1959 **FACT FILE** issue.

Acme Steel Co. 36
Allis Co., Louis 93
American Moistening Co. . . 26
American Production Machine Co. 144
*American Viscose Corp. 117
*Andrews & Goodrich Div. of J. O. Ross Engineering . . 130
Armco Steel Corp. 20
Armstrong Cork Co. 42-43
Atlas Electric Devices Co. . 118

*Bahnson Co. 21
Barber-Colman Co. 140
*Booth Co., Benjamin 120
Buffalo Forge Co. 149
*Butterworth & Sons, H. W. 15

Celanese Corp. of America Textile Div. 123
*Cobble Bros. Machry. Co. . 44
Collins Bros. Machine Co. . . 126
Columbia-Southern Chem. Corp. 64-65
*Continental-Diamond Fibre Div., The Budd Co., Inc. . 129
*Corn Products Sales Co. . . . 63
Curtis & Marble Machine Co. 119

Darnell Corp., Ltd. 136
Dayton Rubber Co., The Industrial Replacement Div. 139
Textile Div. 22-23
*Diehl Mfg. Co. . . . . 2nd Cover
Dinsmore Mfg. Co. 153
Dixie Bearings, Inc. 35
Dixon Corp. 142
Dow Chemical Co. 37
*Draper Corporation 11
Duesberg-Bosson of America, Inc. 144

Emerson Apparatus Co. 128
Erhardt & Leimer 146

Fidelity Machine Co., Inc. . 97
*Foster Machine Co. 107
*Frankl Assoc., Ernest L. . . . 146
Franklin Process Co. 109

Gardner-Denver Co. 41
Globe Dye Works Co. 114

Hinde & Dauch 128
Hooker Chemical Corp. 81
Hungerford & Terry, Inc. . . 148
*Hunter Machine Co., James. 131

Industrial Rayon Corp. 32-33 100-101
*Industrie-Werke-Karlsruhe . . 102

*Jacobs Northern & Southern Div., E. H. 133
*Johnson Corp., The 146

Keever Starch Co. 76
Kidde Mfg. Co., Inc. 145
*Klauder-Weldon-Giles Mach. Co. 18

Lindly & Co., Inc. 138
Link-Belt Co. 19
Lockwood Greene Engineers, Inc. 153
*Loper Co., Ralph E. 150
Lubriplate Div. Fiske Bros. Refining Co. . 132

M-B Products Co. 128
*McBride, Ed. J. 16
Minneapolis-Honeywell 38
Micro Switch Div. 135
Muller, Franz 29

National Aniline Div. Allied Chem. Corp. 27, 73
National Starch Prods., Inc. 91
National Wholesale Drygoods Assoc. 151

Oakite Products, Inc. 148

Penick & Ford, Ltd. 72
*Perfecting Service Co. 124
Powell Co., William 98

Radio Corp. of America 143
Ridge Tool Co. 125
*Rohm & Haas Co. 95
Ruppright's Rotary Roof Cooler 150

*Saco-Lowell Shops 30, 86
Schweiter Ltd. 127
Shell Chem. Corp. 83
*SKF Industries, Inc. 17
Solvay Process Div. Allied Chem. Corp. 77
*Sonoco Products Co. . . 3rd Cover
Southern Loom Development Co. 28
Square D Co. 121
*Staley Mfg. Co., A. E. 84
Steel Heddle Mfg. Co. 31
Stein Hall & Co., Inc. 125
Stowe-Woodward, Inc. . 116, 150
Swift & Co., Soap Dept. . . . 85

Taylor, Stiles & Co. 124
*Tennessee Corp. 80
*Texas Co., The . . . . . 4th Cover
Textile Banking Co. 122
*Textile Machine Works . . . 48
Textile Recorder Exhibitions Ltd. 141
Thilmany Pulp & Paper Co. 115
Tompkins Bros. 126
Torrington Co., The (Needles) 147
Toshin Kogyo Co., Ltd. 39
Turbo Machine Co. 111

Universal Winding Co. . . 34, 88

*Victor Ring Traveler Co. . . 137

West Penn Power 40
*West Point Foundry & Machine Co. 24-25

Whitin Machine Works . . 12, 127
Wildman-Jacquard Co. 113
*Wolf & Co., Jacques 66
Woonsocket Rubber Co. . . . 134

Young Aniline Works, Inc. . 133

CLASSIFIED ADVERTISING
F. J. Eberle, Business Mgr.

EMPLOYMENT OPPORTUNITIES 154

EQUIPMENT (Used or Surplus New) For Sale 154-158

WANTED Equipment 156

ADVERTISERS INDEX

Acme Summit Mills 156
Advanced Textile Company 158
Akkinson Spinning Co., Inc. . . . 158
American Air Compressor Corp. 157

Bialek & Co., Theodore 156
Blank & Co., A & M 158

Darlington Fabrics Corp. 158

Fitzgerald, James E. 158
Fletcher Works, Inc. The 157
Flynn, Jr. George D. 155

Hillyard Chemical Co. 154
Hooper & Sons Co., William E. . 156

Industrial Products of America. 156

Mar-Day Textiles Co. 158
McDowell Associates Inc. 156
Miller Machinery Co. 156
Mohawk Valley Knitting Machine Co. 154

New Haven Bag & Burlap Co. . . 156

Pennsylvania Spool & Equipment Co. 154
Perry Equipment Corp. 156

Rabinowitz & Sons, Williams . . . 157
Republic Textile Equipment Co. 154

Skelton, Inc., H. C. 156
Southern Textile Works 157
Stave & Kessler 158

Textile Auxiliaries Inc. 158

Wheeler Co., Frank W. 158

This index is published as a convenience to the reader. Every care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.

Textile World

READER SERVICE

for more information . . . . .

. . . on Advertisements, Equipment & Supply News, New Dyes & Chemicals, free New Literature, or TEXTILE WORLD Editorial Reprints described in this issue . . .

. . . Please circle the appropriate numbers or write in an adequate description on the post cards below. . . . Fill in your name, job title, mill, and address and mail. No postage required.

LITERATURE, BOOKLETS AND TECHNICAL BULLETINS AVAILABLE FROM FOLLOWING ADVERTISERS IN THIS ISSUE:

A-1 ALLIS CO., LOUIS 93

A-2 ARMCO STEEL CORP. 20

A-3 ATLAS ELECTRIC DEVICES CO. 118

A-4 BUFFALO FORGE CO. 149

A-5 DARNELL CORP., LTD. 136

A-6 DIEHL MFG. CO. .....2nd Cover

A-7 GARDNER-DENVER CO. 41

A-8 HOOKER CHEMICAL CORP. 81

A-9 JOHNSON CORP. 146

A-10 LINK-BELT CO. 19

A-11 LUBRIPLATE DIV., FISKE BROS. 132

A-12 M-B PRODUCTS 128

A-13 MICRO SWITCH DIV. 135

A-14 OAKITE PRODS., INC. 14

A-15 RADIO CORP. OF AMERICA 143

A-16 RUPPRIGHT'S ROTARY ROOF COOLER 150

A-17 SACO-LOWELL SHOPS 86

A-18 SOLVAY PROCESS DIV. 77

A-19 SQUARE D CO. 121

A-20 TAYLOR STILES & CO. 124

A-21 THILMANY PULP & PAPER CO. 115

A-22 WEST PENN POWER CO. 40

A-23 WILDMAN-JACQUARD CO. 113

A-24 WOLF & CO., JACQUES 66

ADVERTISERS' LITERATURE: This card expires September 30, 1958

A-1 A-2 A-3 A-4 A-5 A-6 A-7 A-8 A-9 A-10 A-11
A-12 A-13 A-14 A-15 A-16 A-17 A-18 A-19 A-20 A-21 A-22 A-23 A-24

ADDITIONAL INFORMATION ON ADVERTISEMENTS (Jot Numbers)

PAGE	SUBJECT	PAGE	SUBJECT
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

EQUIPMENT AND SUPPLY NEWS:
T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8
T-9 T-10 T-11 T-12 T-13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22
T-23 T-24 T-25 T-26 T-27 T-28 T-29 T-30 T-31 T-32 T-33 T-34 T-35 T-36

NEW LITERATURE:
F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9 F-10 F-11
F-12 F-13 F-14 F-15 F-16 F-17 F-18 F-19 F-20 F-21 F-22 F-23 F-24 F-25
F-26 F-27 F-28 F-29 F-30 F-31 F-32 F-33 F-34 F-35 F-36 F-37 F-38 F-39
F-40 F-41 F-42 F-43 F-44 F-45 F-46 F-47 F-48 F-49 F-50

DYES AND CHEMICALS: D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11 D-12 D-13 D-14 D-15 D-16 D-17

EDITORIAL REPRINTS Numbers Listed on Back

Please Include Payment With Order

Quantity	Reprint No.	Quantity	Reprint No.	Quantity	Reprint No.
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y., July, 1958

ADVERTISERS' LITERATURE: This card expires September 30, 1958

A-1 A-2 A-3 A-4 A-5 A-6 A-7 A-8 A-9 A-10 A-11
A-12 A-13 A-14 A-15 A-16 A-17 A-18 A-19 A-20 A-21 A-22 A-23 A-24

ADDITIONAL INFORMATION ON ADVERTISEMENTS (Jot Numbers)

PAGE	SUBJECT	PAGE	SUBJECT
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

EQUIPMENT AND SUPPLY NEWS:
T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8
T-9 T-10 T-11 T-12 T-13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22
T-23 T-24 T-25 T-26 T-27 T-28 T-29 T-30 T-31 T-32 T-33 T-34 T-35 T-36

NEW LITERATURE:
F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9 F-10 F-11
F-12 F-13 F-14 F-15 F-16 F-17 F-18 F-19 F-20 F-21 F-22 F-23 F-24 F-25
F-26 F-27 F-28 F-29 F-30 F-31 F-32 F-33 F-34 F-35 F-36 F-37 F-38 F-39
F-40 F-41 F-42 F-43 F-44 F-45 F-46 F-47 F-48 F-49 F-50

DYES AND CHEMICALS: D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11 D-12 D-13 D-14 D-15 D-16 D-17

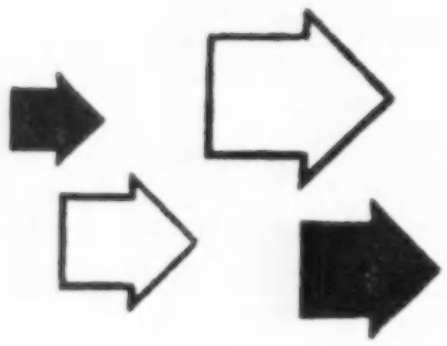
EDITORIAL REPRINTS Numbers Listed on Back

Please Include Payment With Order

Quantity	Reprint No.	Quantity	Reprint No.	Quantity	Reprint No.
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y., July, 1958

Textile **World**



reprints available

Reprints of the following articles run in past issues of TEXTILE WORLD are available at the price indicated. To order, write or use the Reader-Service card on p. 161, stating the numbers of the reprints desired. Enclose check or money order payabe to TEXTILE WORLD.

(Please type or print)

NAME _____

TITLE or POSITION _____

COMPANY _____

ADDRESS _____

CITY & STATE _____

FIRST CLASS
PERMIT No. 64
(Sec. 34.9 P.L.&R.)
NEW YORK, N. Y.

BUSINESS REPLY CARD
No Postage Stamp Necessary if Mailed in the United States

5¢ Postage Will Be Paid By—

Textile **World**

330 W. 42nd Street

New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

(Please type or print)

NAME _____

TITLE or POSITION _____

COMPANY _____

ADDRESS _____

CITY & STATE _____

FIRST CLASS
PERMIT No. 64
(Sec. 34.9 P.L.&R.)
NEW YORK, N. Y.

BUSINESS REPLY CARD
No Postage Stamp Necessary if Mailed in the United States

5¢ Postage Will Be Paid By—

Textile **World**

330 W. 42nd Street

New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

The NEW RESINS FOR TREATING WHITE COTTON GOODS
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies 60¢ each

What are they? How do they react? How do you apply them? An expert in the field answers these and other questions about this important development in textile chemistry. **R-1**

COTTON CRUSHPROOFING
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies, 60¢ each

An authoritative report that gives a brief background on crushproofing and explains how cotton fiber reacts to resin finishes, how crushproofing works on cotton, the types of chemicals used, and pointers on applying the finishes. **R-2**

A NEW WAY TO MEASURE MANAGEMENT PERFORMANCE
50¢ each, 40¢ in lots of 20 or more

Here's a tool that helps pinpoint good and bad performance, isolate the need for improvement, and show how management is progressing in one of the basic factors that help determine costs and profits. **R-3**

CHEMICAL FINISHING TECHNIQUES
$1 each, 85¢ in lots of 20 or more

A series of four articles that explain the chemical and physical properties of a number of finishing materials and their applications to and reactions with cellulose and various synthetics. **R-4**

ENGINEERED TEXTILE DESIGN
Set of 5 articles. $1.25 per set

A series of articles of interest to those engaged in practical fabric design or in teaching functional design. One article introduces the all-fiber system, which takes the guess out of how many ends and picks to use in changing to a new fabric. Another shows how to change weight without changing structure. Detailed numerical examples are provided. A discussion of yarn diameters, as the basic of structure, opens the series. **R-5**

METALLIC-YARN WET-PROCESSING GUIDE
50¢ each, 40¢ in lots of 20 or more

Wall chart shows step-by-step guide for wet processing each of six principal types of metallic yarns. Text gives details for handling different fabrics containing metallic yarns. **R-6**

HERE'S A QUICK WAY TO IDENTIFY FIBERS
50¢ each, 40¢ in lots of 20 or more

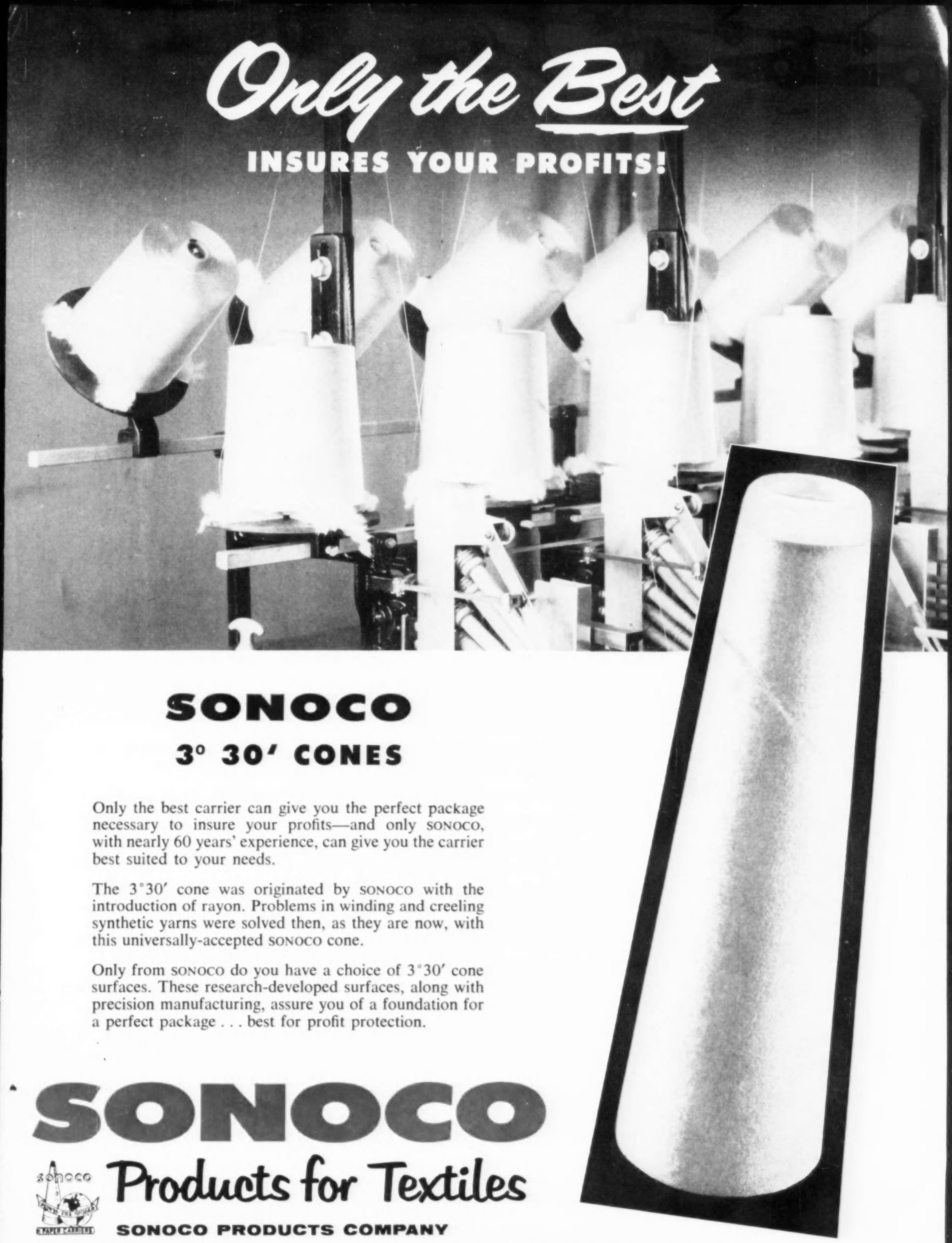
A four-step method of fiber identification is described. A full-color chart of identification stains, a solvent chart, and fiber cross sections are included. **R-7**

WOVEN CLOTH DEFECTS
1 to 15 copies, $1 each; 16 to 30 copies, 75¢ each; over 30 copies, 60¢ each

An illustrated series of articles that show each major cloth defect, give its causes, and explain how to eliminate it. **R-8**

Only the Best

INSURES YOUR PROFITS!



SONOCO

3° 30′ CONES

Only the best carrier can give you the perfect package necessary to insure your profits—and only SONOCO, with nearly 60 years' experience, can give you the carrier best suited to your needs.

The 3°30′ cone was originated by SONOCO with the introduction of rayon. Problems in winding and creeling synthetic yarns were solved then, as they are now, with this universally-accepted SONOCO cone.

Only from SONOCO do you have a choice of 3°30′ cone surfaces. These research-developed surfaces, along with precision manufacturing, assure you of a foundation for a perfect package . . . best for profit protection.

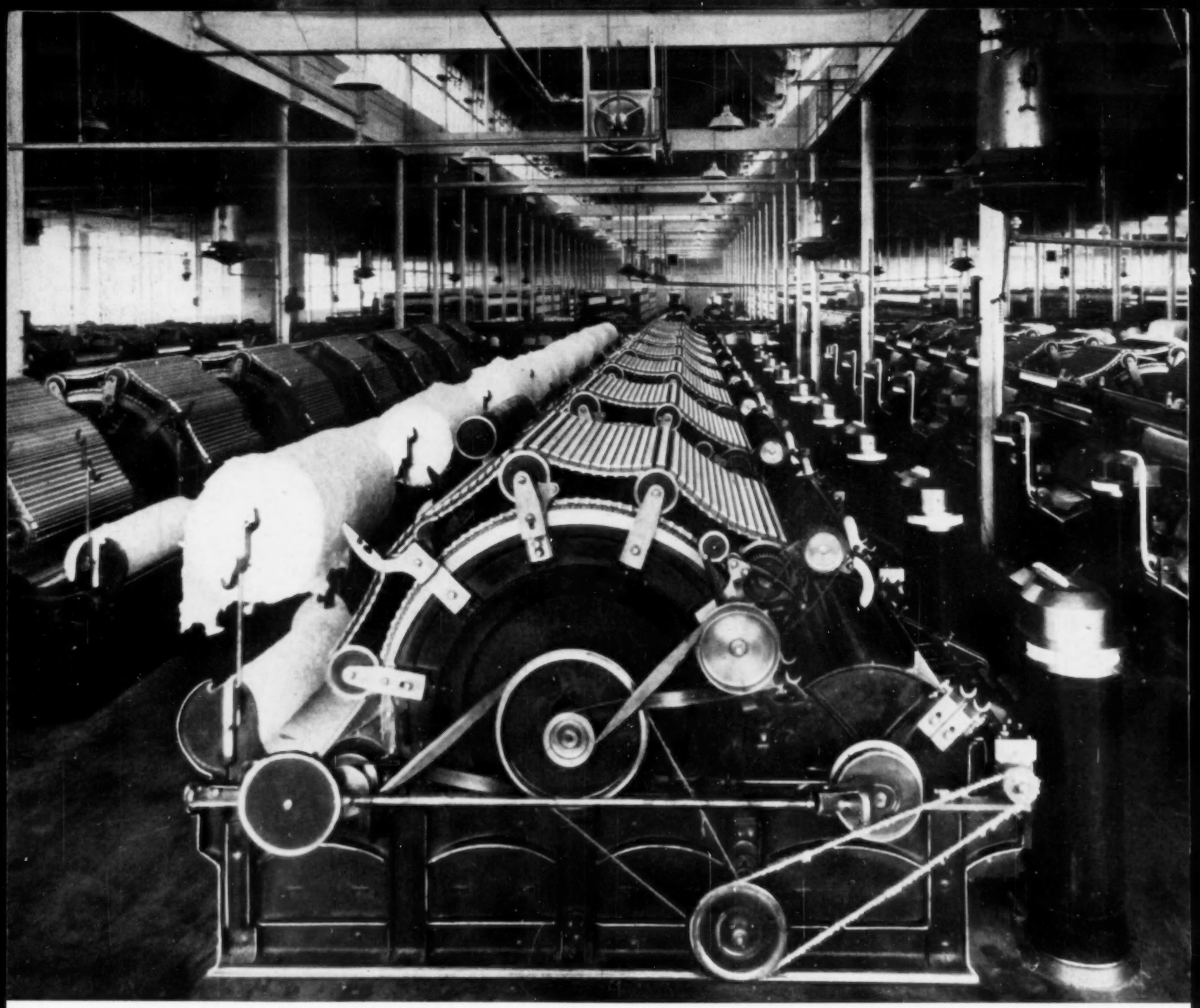
SONOCO

Products for Textiles

SONOCO PRODUCTS COMPANY

Main Office—HARTSVILLE, S. C. • MYSTIC, CONN. • AKRON, IND. • LOWELL, MASS. • PHILLIPSBURG, N. J. • LONGVIEW, TEXAS • PHILADELPHIA, PA. • LA PUENTE, CAL. • ATLANTA, GA. • GRANBY, QUEBEC • BRANTFORD, ONTARIO • MEXICO, D. F.

3326



Lubrication is simpler with Multifak

Texaco Multifak combines—*in one product*—all the properties you need to protect your grease-lubricated bearings. It prolongs bearing life because it's a premium quality lubricant that stays in the bearings and resists oxidation and separation. It lets you take full advantage of a centralized lubrication system because it's effective over a wide temperature range, and remains pumpable. And Multifak reduces power costs because it has low torque characteristics—bearings run easier, and more of the power goes to the machinery.

Use of Multifak also saves time and money by cutting lubricant inventory. And because it's the *right* lubricant for so many jobs, there's far less chance of lubrication error.

A Texaco Lubrication Engineer will gladly show you how Multifak can help you simplify lubrication throughout your mill—and give you more effective lubrication at less cost. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)